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THE

COMPETITIVE GEOGRAPHY

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BY

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AUTHOR OF "THE CIVIL SERVICE ARITHMETIC," ETC.

Third Edition

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In 1806, Captain Scoresby, who possessed long experience in the Whale fishery of the Arctic Seas, succeeded in reaching 81° 30′ north latitude, that is, within 8½ degrees, or 587 miles of the North Pole. On his return to England he confidently asserted that the pole itself could be reached by crossing the ice in sledges drawn by dogs and reindeer. Captain Parry in 1827 succeeded, to the north of Spitzbergen, in reaching latitude 82° 40′, or within 507 miles of the pole itself. In 1869 a German vessel, the *Hansa*, on a kind of pleasure trip, reached 73° 6′ north latitude on the east coast of Greenland, where its further progress was intercepted by the drifting ice proceeding southwards; but the most remarkable Arctic enterprise in recent years was the Austro-Hungarian expedition which, under Lieutenant Payer, discovered a new land directly north of Nova Zembla, which is named Francis Joseph Land. On referring to a good modern map it will be seen this dreary region lies within the 80th parallel.

The map above will, we trust, give our readers a clear idea of the position and route of the recent *Arctic Expedition*, which, on the representation of a deputation, representing most of the learned London societies, to the Prime Minister, the British Government in August 1874 promised to despatch. During the winter of 1874-5, preparations were made for the intended exploration of the Arctic regions, the object being an effort to reach the North Pole by proceeding north through Smith sound (see map).

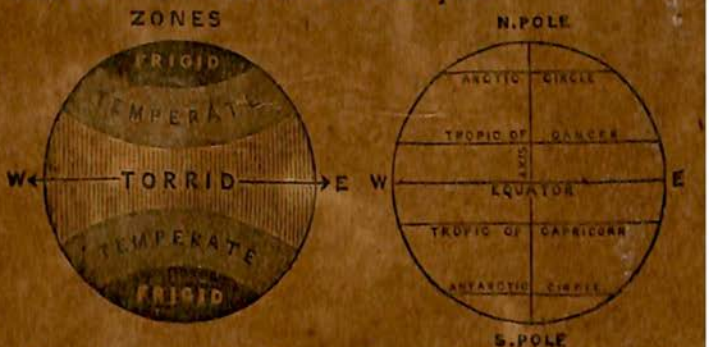
Accordingly the vessels *Alert* and *Discovery*, with their tender the *Valorous*, were fully equipped early in May, and on the 29th of that month, with Captain Nares as chief in command, they steamed out of Portsmouth harbour amid the loud huzzas of a great multitude, made up of almost all the local population, together with large arrivals by special trains from London and all the towns in the south of England. The expedition arrived off Bantry Bay on the south coast of Ireland on the 2nd of June. In less than

five weeks the *Alert*, which led the van, arrived at *Sievely*, a Danish settlement on Disco Island in Greenland. The *Discovery* having arrived a few days after her consort, they took in a number of Newfoundland dogs and a driver. The next important place at which they stopped was *Upernavik*, also a Danish settlement on the north-east of Baffin Bay. On proceeding north the ice in Smith sound delayed them a couple of weeks; and at Cape Frazer (see map) it again became troublesome. After passing through Kennedy channel they found Peterman fiord a very commodious harbour overlooked by hills about 2000 ft. high. Here they anchored on 25th August. In a few days the *Alert* proceeded through Robeson channel to her winter quarters, as marked on our map. The *Discovery* took up her quarters, as may be seen, near the entrance to Robeson channel. Of the various sledge expeditions which they organized, of the excessive cold which they endured, of the amusements which they improvised to wile away the dreary arctic winter, of their sufferings from scurvy, of their observations upon phenomena that presented themselves on the earth and in the heavens, of the amount of success commensurate with the expense incurred, of the merits of the commander and his several subordinates, it is not our purpose at present to speak, as we hope to have an early opportunity of referring to these matters in detail. Suffice it to say the sun reappeared on the 1st February, and about the end of March two men on a sledge from the *Alert* succeeded in reaching her more southern consort. In June the ice began to thaw; but it was only on 28th August that both vessels in company succeeded in disentangling themselves from the floating ice. At the end of October 1876, the expedition was joyfully received on its return to Portsmouth dockyard; and the chief officers in command received individually what most people consider well-merited promotion from the Government.

INTRODUCTION.

GEOGRAPHY is a description of the surface of the earth. It is usually considered under three heads:—**Mathematical Geography,** which treats of the form, motions, and size of the earth, considered as a planet; **Physical Geography,** which treats of the natural features of the earth's surface: its mountains, plains, rivers, and lakes with their various peculiarities: its atmosphere, climates, and natural productions: and **Political Geography,** which treats of the earth divided into political governments, as kingdoms, empires and republics, with an account of the moral, political, and social condition of their inhabitants.

The *axis* of the earth is an imaginary line passing through its centre from north to south. The extreme points or ends of the earth's axis are called the *poles*.



Round the middle of the earth, midway between the ends of the axis, is the circle called the *equator*. From the equator the stars of both hemispheres are visible. Smaller circles are drawn round the globe parallel to the equator to indicate the distance of the places through which they pass from that circle.

A circle drawn through any place on the earth's surface

at right angles to the equator, is called the *meridian* of that place. Its distance is reckoned from the *first* meridian, which is supposed to pass through Greenwich. As Greenwich is east of Dublin, and the earth rotates from west to east, it is mid-day in Greenwich about 26 minutes before it is mid-day in Dublin.

In the map of the world consisting of two hemispheres, the meridian circles of 20° W., and 160° E., are made the separation between the New and Old World hemispheres.

It is evident the greatest latitude any place can have is 90°, which is the distance of the poles from the equator, and the greatest longitude is 180°; that at the points where the first meridian crosses the equator, there exists neither latitude nor longitude. On glancing at a map of the world, it will be seen that latitude is marked on the sides or circumferences of the hemispheres above and below the equator, that longitude is marked on the equator; but on maps of particular countries, latitude is marked on the sides.

The *sensible horizon* is the line which bounds our view by the apparent meeting of the earth and sky.

The *rational horizon* is a similar circle of vision, could we see half the globe and, consequently, half the heavens.

The point in the sky directly over the head of an observer is called the *Zenith*, the opposite point the *Nadir*.

The sun's rays extend 90° all-round the place over which he is *vertical*. The line between light and darkness is a *great circle*,* called the *circle of illumination*. It divides the illuminated half of the earth from the half in darkness. One half of the globe is always in light, the other in the shade.

The sun is never vertical at any place north of 23½°. The parallel over which he is vertical on the 21st June is called the *tropic of Cancer*.

The sun is never vertical further south than 23½°. The parallel over which he is vertical on the 21st December is called the tropic of *Capricorn*.

* A *great circle* divides the earth into two equal parts.

These tropics are marked on maps as dotted circles to distinguish them from other parallels.

The part of the earth between these two circles is the *Torrid* zone, so called on account of the excessive heat that prevails there.

The parallels at $23\frac{1}{2}°$ from the N. and S. poles respectively are called the *Polar Circles*.

The parts of the earth between the tropics and the polar circles are the *Temperate* zones, north and south, and have a moderate climate; the parts within the polar circles and round the poles, north and south, are the *Frigid* zones: here the most intense cold prevails.

The *Ecliptic* on the earth is a great circle which represents the sun's path of "*verticality*" during the year.

Form.—The earth is nearly globular. It is flattened a little at the top and bottom, and bulged about the equator. The length of the shorter diameter, which is its axis, is 7899 miles, and the length of the equatorial diameter is 7925 miles; the difference between these two diameters, viz., 26 miles, is called the earth's compression.

That the earth is round like a sphere or globe, has been proved beyond dispute, although when we look around on any part of its surface it appears to be flat, and to meet the sky at some distance from the place on which we stand. Perhaps the best and most convincing proof of the rotundity of the earth is derived from the well-known fact that persons have frequently sailed round it. In addition, the following proofs of its sphéricity are usually given:—

1. The sun rises earlier to people living to the east of us. If the earth were flat this could not be the case. In Great Britain sunrise is *one* minute earlier for every *ten miles* we travel eastward; the earth is therefore round in these two directions.

2. The pole star is on the horizon to people at the equator and rises higher and higher as we proceed towards the north; this could not be if it were viewed from an extended plane; therefore the earth is also round from north to south.

3. During eclipses, the earth's shadow has always a circular edge, although revolving round its axis; this constantly circular shadow must be produced by a spherical body.

4. Lower parts of ships at sea, and the bases of mountains on land, first disappearing from view, show that a *convexity* of surface comes between us and the objects seen in every direction.

5. The horizon at sea is perfectly round, and on land of the same shape, allowing for inequalities of surface, and for objects intercepting the view.

The earth curves about 8 inches in a mile; and this curvature increases with the square of the distance.

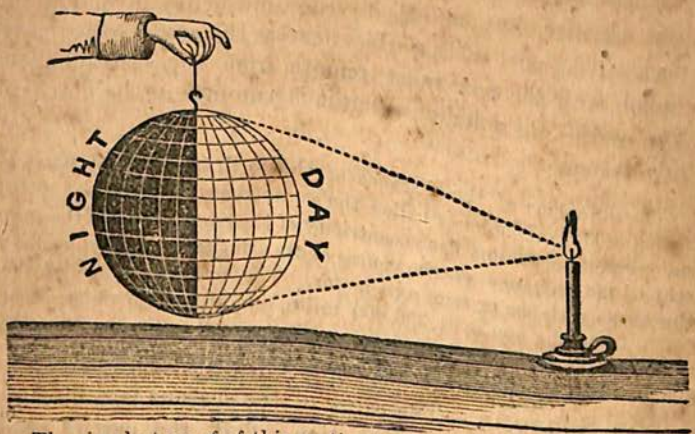
To find the curvature for any distance: reduce the distance to miles, square the result, and multiply by 8, and we get the curvature in inches. On the contrary, to find the distance visible from a given height, we reduce the height to inches, divide by 8, extract the square root of the quotient for the answer in miles.

As to the cause of the earth's sphericity it is only necessary to say, that at first the earth was supposed to be a molten mass, and the force of gravitation, acting on its particles, caused them to assume the globular form. This molten mass, revolving on its axis, would soon bulge out at the equator, as the particles at that part would move more rapidly (in consequence of the earth turning on its axis) than the particles on any other part of the earth's surface, and therefore the tangential force acting on them would be greater.

Motions.—The sun, moon, and other heavenly bodies appear to move daily from east to west; this appearance is caused by the earth's motion in a contrary direction, west to east. The earth has two motions, diurnal and annual.

The diurnal motion is the turning of the earth on its axis from west to east, in nearly 24 hours. This motion is the cause of day and night. The half of the earth on which the sun is shining has day, the other half night; and, as the earth makes a complete revolution on its axis in 24 hours,

day and night, taken together, are equal to that period of time.



The simplest proof of this motion is that given by Mons. Foucault, founded on pendulum experiments made by him in 1851.

The following is another proof of the earth's rotation: if a stone were let fall from the top of a tower to the ground, and if the earth really had a rotation from west to east, the stone should fall somewhat to the east of the foot of the plumb-line, because the top of the tower would have a greater velocity of rotation than the bottom. Experiments of this kind have demonstrated the earth's rotation.

The annual motion of the earth is its revolution round the sun in a period of about 365¼ days. The *direct* proof of this motion of the earth in space depends on the fact that light requires a certain interval of time to pass from one point of space to another, combined with the observation of the phenomenon known to astronomers by the term, Aberration of the Fixed Stars. The velocity of light has been determined by experiment; and it can be easily shown that, velocity of earth = velocity of light × tangent of aberration. The cause of this motion is the force of gravitation exerted by the sun, which would draw the earth to the sun, and the tangential force acquired by the earth moving in its orbit, which tends to cause it to fly off in a straight line. As these two forces are *continually* acting on the earth, the

result is, that it acts as a ball would under similar circumstances, and describes a curve. The orbit of the earth is not circular, but elliptical; the sun being in one of the foci. That part of the orbit nearest the sun is called perihelion, and the part most remote from the sun, aphelion. The earth is in aphelion when it is summer in the northern hemisphere.

The difference of the distance of the earth from the sun when in aphelion and perihelion is called the eccentricity of the earth's orbit; or, correctly speaking, the eccentricity of the earth's orbit is the ratio which the distance of the centre of its orbit from the sun bears to the mean distance or semi-axis major. The mean distance of the earth from the sun is 91,350,000 miles, and the eccentricity about 3,000,000 miles; but this latter quantity, as well as the season when aphelion occurs, changes slowly during a long cycle of years.

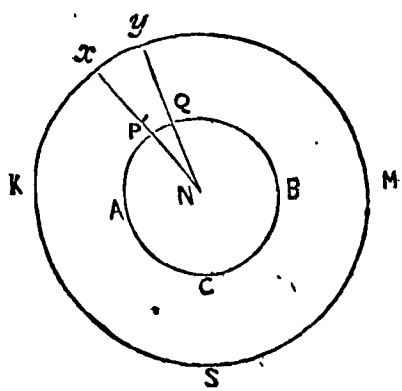
The Seasons.—The cause of the seasons is three-fold —1st, the earth's annual motion; 2nd, the earth's axis makes with the plane of the orbit an angle of $66\frac{1}{2}°$; and 3rd, the axis always points to the same point in the heavens. If we take a small globe and incline its axis so as to make an angle of $66\frac{1}{2}°$ and then carry it round a candle, taking care that its *axis in every two positions is parallel*, the cause of the seasons will be evident.

In one position, we would observe the sun vertical to a circle drawn $23\frac{1}{2}°$ N. of the equator. In this position, the rays of the sun reach $23\frac{1}{2}°$ beyond the north pole, while they do not reach within $23\frac{1}{2}°$ of the south pole. In such a position it is obvious that summer prevails in the northern, and winter in the southern hemisphere. In the opposite part of the orbit it will be seen that the sun will be vertical $23\frac{1}{2}°$ S. of the equator, that is, over the tropic of Capricorn. In this position the sun's rays extend $23\frac{1}{2}$ beyond the S. pole, and they fall short of the N. pole by the same distance. In two points of the orbit, intermediate between the two we have mentioned, it will be observed that the axis is neither inclined to, or declined from the *sun* (though, of course, it is still inclined to the *plane of the orbit*), and in

these two positions the sun is vertical to the equator. In these cases the sun's rays extend from pole to pole, and the days and nights are equal, which happens on the 20th March and 23rd September in every year.

Magnitude.—The circumference of the earth is 24,856 miles. By dividing this by 3·1416 we get the diameter to be 7,912 miles.* The area of the earth's surface is about 197,000,000 square miles, and its solid content, about 256,000 millions of cubic miles. All these numbers can be easily found if we once know the length of a degree on the earth's surface; for, knowing this, if we multiply it by 360 we get the circumference, from which we can find all the others. The length of a degree on the earth's surface is found as follows :—.

Let A B C represent the earth, and K S M the heavens. All circles are divided into 360 equal parts or degrees.



* The unit of measurement on the surface of the globe is a degree, which is 60 geographical or $69\frac{1}{10}$ British miles very nearly. The circumference of the earth, that is a line passing completely round it, like the circumference of every circle, is divided into 360 degrees, and each of these is subdivided into 60 equal parts called minutes, and these again into 60 equal parts called seconds. It is usual to write degrees, minutes, seconds in the following manner: for 23 degrees, 23 minutes, and 35 seconds, we write 23°, 23′, 35″. Now, the half of the earth's circumference is one-half 360°, that is 180°, and the quarter (often called a quadrant) is 90°, which, as is evident, is the

Let N be the centre of both circles, and let P Q denote a degree on the earth, then, by producing N P and N Q to the outer circle, x y will be a degree on the heavens. It is, therefore, plain, that by walking a degree on the earth's surface, a line drawn from us to the sky would describe a degree on the heavens; and conversely, if this line described a degree on the heavens, we must have walked a degree on the earth's surface. Now, if we take the height of a fixed star, and walk due north or south until we find, by again taking its height, that it is one degree higher or lower, it is evident we have a degree on the earth's surface. By measuring from the place we started to where we stopped, making allowances for elevation and depression, we shall have the length of a degree. This has been done in many places, and the length of a degree ascertained to be about $69\frac{1}{10}$ miles.

Owing to the earth's being an oblate spheroid, a degree of latitude, or the 360th part of a meridian, is a little longer towards the poles than at the equator. The length of a degree of longitude, or the 360th part of a parallel, depends, of course, on the length of the parallel; and as these circles become smaller as one goes from the equator to the poles, the degrees of longitude must all get smaller and smaller in the same direction.

POSITION OF PLACES ON THE EARTH'S SURFACE.

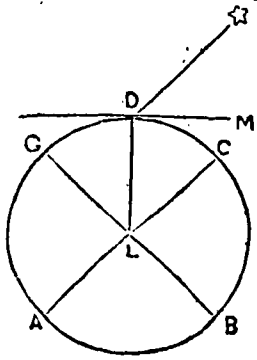
In order to give the exact position of places on the globe, geographers have introduced, as already stated, the terms latitude and longitude.* It is evident that if we say a place lies

distance from the equator to either pole. As we know the exact number of miles in a degree, which has been found by actual measurement, we can easily determine the number of miles in the earth's circumference, by multiplying 360 by $69\frac{1}{10}$, and having performed this simple operation in figures, we obtain 24,876 miles or 25,000 miles very nearly. The diameter of the earth, that is, a line drawn through its centre from any point in the circumference to a point directly opposite, can now be easily found; for we know that every diameter bears to its circumference the ratio given above.

* Supposing the earth to be a perfect sphere, the latitude of a place is the angle subtended at the centre by the arc of the meridian, intercepted between that place and the equator.

40 miles due W. of London, and 50 miles due N. of Portsmouth, it will be found by finding the point at which two lines drawn in the direction indicated from the places named, cut each other. In the same manner if we are told a place is about 53½° N. latitude, and 6½° W. longitude, we look at the side of a map, and find the parallel of 53½° as near as we can calculate from 50°, the parallel usually given, and the meridian of 6½° W.† Though latitude and longitude are found by astronomical observation, it may be well to refer to the most common methods by which they are determined. We shall give two methods of determining latitude.

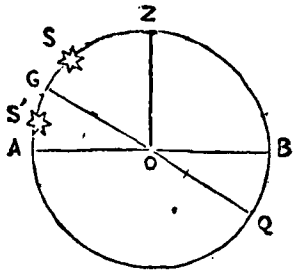
1st. The latitude of a place on the earth's surface is equal to the altitude of the polar star at that place.



Let A B C represent the earth, and * be the polar star; let D be the place of observation. Then a tangent passing through D will be the horizon, and * D M will be the altitude of the polar star. Let A C be the earth's axis, G B perpendicular to the axis will be the equator, and G L D will be the latitude. Now, as all lines drawn from points on the earth's surface to the polar star are considered parallel, owing to its immense distance, *D is parallel to A C, and consequently * D L is equal to A L D (Euclid I. 29), but M D L and A L G are equal, being right angles. Taking these away, there will remain * D M, equal to G L D, that is, the height of the polar star above the horizon is equal to the latitude of the place.

† Dublin, of course, is the place referred to.

2nd. If we take the meridian altitude of the sun, and subtract it from 90°, and then add his declination if he be north of the equator, or subtract it if he be south, we shall have the latitude.



Let O be the position of a spectator, which we may conceive to be in the centre of the heavens, A B his horizon, Z his zenith, G Q the equator, and S the position of the sun at 12 o'clock, when his altitude is taken; then A S will be the meridian altitude; and it is plain that if A S be taken from A Z, which is 90°, we get S Z, or the zenith distance. If we add to this G S, which is the declination, and in this case it is north, we shall obtain G Z. By referring to diagram, p. 7, it will be evident that G Z on the heavens would correspond in degrees to the distance of the spectator from the equator on the earth, which is his latitude. If the sun were south of the equator as at S', the meridian altitude would be A S, and this taken from 90° would give S' Z as before, but we should subtract G S' as the declination from this to obtain G Z or the latitude.

Of course having found our latitude, we merely know whether we are N. or S. of the equator, and how far N. or S. As the earth moves round or revolves on its axis before the sun with a uniform velocity in a period of 24 hours, (a) and as the earth is a sphere, one half of it will be exposed to the sun's rays, and the other deprived of them in regular succession; that is 360°, being its entire circumference, it

(a) More accurately 23 hours 56 minutes.

will move in one hour the twenty-fourth part of 360 or 15 degrees.

The sun appears to rise in the east in consequence of the rotation of the earth in the opposite direction, and, consequently, places towards the east will be the first exposed to his rays, and in the proportion of one hour to every 15°, the time at such places being in advance of that at places towards the west. Time is earlier to the E., later to the W. Longitude is only counted half round the globe, and hence 180° or half 360° is the greatest possible longitude. When the sun is on the meridian of any place or at his greatest altitude, it is twelve o'clock, noon, at that place.

To determine longitude, we must have meridian time and local time. There are three methods of determining first meridian or Greenwich time.

1st. By a chronometer, set to Greenwich time at starting, and referring to it.

In this country we reckon longitude* from the Greenwich observatory; in France and most other countries they reckon from their own principal observatory. If a person should find at sea it is twelve o'clock when his chronometer, which indicates London time, is only ten o'clock it is evident that London time is later than the time of the place in which he finds himself, by two hours. Consequently he is $2^h \times 15° = 30°$ to the E. of London. On the contrary, if his chronometer indicate three o'clock in the afternoon, when the sun is over his meridian, it is plain his position is now $3 \times 15° = 45°$, west longitude. In this case every four minutes difference in time represents 1°

* The question of finding the exact longitude at sea being so important, the British legislature, in 1714, advanced £2,000 for the purpose of making experiments; and offered rewards to the amount of £20,000 in case of perfect accuracy being secured. Mr. John Harrison, by greatly improving the construction of chronometers, which he succeeded in making keep correct time for ten years, gained the reward in 1761. Several others have succeeded in constructing chronometers of equal excellence, amongst whom may be named Mr. Dent, perhaps the most successful.

difference in longitude, for $60' + 15 = 4'$. If chronometers kept *exact time* in all seas, in all climates, and under all circumstances, this mode of finding the longitude would be quite sufficient. This, however, notwithstanding the vast improvements above referred to, can hardly be expected.

2nd. Take the angular distance of the moon from one of the conspicuous stars near her, find the distance in the nautical almanac, and opposite to it will be found Greenwich time. This is the lunar method.

3rd. Observe the eclipse of one of Jupiter's satellites, and then refer to a nautical almanac which gives the time when this eclipse occurs to a spectator at Greenwich. This will be Greenwich time.

The methods of finding local time are not suited for these pages.

Knowing Greenwich time and local time, we find our longitude as follows :—

As 1 hour : difference of these times :: 15° : longitude. Because, as the earth turns round 360° in 24 hours, it will rotate 15° in one hour. If the local time be earlier than Greenwich, the longitude is east; if later, the longitude is west. When we know our latitude and longitude, we can find our position on the earth; for we merely have to trace the meridian of the given longitude until it cuts the parallel of the given latitude, and where they intersect, is the required place. Pupils are sometimes required to work questions under the following two problems :—

(1.) Given the longitude of two places, and the time in one place, to determine the time in the other?

As 15° : the sum of the longitudes of the places, if the longitude be of different kinds, or to their difference, if of the same kind :: 1 hour : the difference of time. Then if the time of the more eastern place be given, subtract this difference from it; if the time of the more western, add it.

(2.) Given the time of two places and the longitude of one, to find the longitude of the other?

As 1 hour : the differences of the times :: 15° : to differ-

ence of longitude. Then if the longitude of the more eastern place be given subtract this difference, otherwise add it.

We can generally find the distance between two places on a map by taking the distance between them and applying it to the scale of the map. If no scale be on the map, then bring this distance to the equator if it be a map of the world, or to the *side* of the map if it be of a particular country, by which means we can find the number of degrees of a great circle between them, and we can reduce these degrees to miles, by multiplying by $69\frac{1}{10}$. If two places be on the same meridian, we can tell their distance in degrees, by adding their latitudes if of different kinds, or subtracting their latitudes if of the same kind. As these are degrees of a great circle on the earth, they can be changed into miles by multiplying by $69\frac{1}{10}$. If the places be on the same parallel, the distance between them in degrees is found by adding their longitudes if of diffent kinds, or subtracting their longitudes if of the same kind. But as these are degrees of a small circle, they can only be reduced to miles by multiplying by the length of a degree of longitude on that particular parallel of latitude, as found from such a table as the following :—

LENGTH OF A DEGREE OF LONGITUDE.

LATITUDE.	MILES.	LATITUDE.	MILES.
0	$69\frac{1}{10}$	50	44
5	$68\frac{3}{4}$	55	$39\frac{1}{2}$
10	68	60	$34\frac{1}{2}$
15	$66\frac{1}{2}$	65	29
20	65	70	$23\frac{1}{2}$
25	$62\frac{1}{2}$	75	18
30	60	80	12
35	$56\frac{1}{2}$	85	6
40	53	90	0
45	$48\frac{1}{4}$		

PHYSICAL GEOGRAPHY.

Physical Geography treats of the *natural* appearance of the earth's surface,* and the *phenomena* of air, water, and land. It is not in its province, as already mentioned, to trace empirical divisions made by man, but the natural conditions of our globe as imprinted by the Creator's hands, and the immutable laws which govern it for our benefit, and the supply of our material wants.

Physical Geography treats of the configurations of the great masses of land called continents, and their distributions in both hemispheres; the directions of the mountain chains and of the great rivers; the ocean with its currents and tides; the atmosphere with its clouds, winds, and electricity; the distribution on the surface of the earth of plants, animals, and man. Geology is connected with this science.

DEFINITIONS, ETC.

A *continent* is a large extent of land containing many other divisions.

An *island* is a tract of land entirely surrounded by water. An *islet* is a very small island usually uninhabited.

A *peninsula* † is a portion of land surrounded on all sides by water except at one narrow neck generally called an *isthmus*, with which it is connected to a continent.

A *cape* is a portion of land jutting out into the sea; when very small it is called a *point;* when elevated or mountainous it is called a *promontory.*‡

An elevation or protuberance on the earth at least 1,000

* Geology treats of the various substances which compose the earth, and the changes which it has undergone, and is undergoing.

† Also called Chersonese.

‡ Various names are applied to headlands according to the shape they assume: some are called *bills*, as Portland Bill, Selsea Bill, on the south coast of England; some are called *mulls*, in Scotland, as the Mull of Cantyre. The term *ness* is also very commonly applied to headlands—evidently another form of *nose*, which we have in the *naze* S. of Norway, the *naze* of Essex, etc.

feet above sea-level is called a *mountain*;* smaller elevations are called *hills*.

A *plain* is a flat or level district of considerable extent.†

A *table-land* is an elevated plain with steep acclivities on every side.

A plain is called a *valley* when it lies between two hills or mountains, and a small valley is often called a *vale*.

Steppes are extensive plains very much the nature of deserts (sterile and barren), in south Russia, bordering on the Caspian Sea.

The surface of the earth consists of land and water, in the proportion of three parts water to one part land; and if we compare the north of the equator with the south of it, the proportion of land is as three to one.

An *ocean* is the name given to the largest bodies of salt water.

A *sea* is smaller than an ocean, and usually confined or bounded by land. In fact, it is often a branch of an ocean, having a particular name.

An *archipelago* is the name applied to a sea studded with islands.

A *gulf* is a large portion of the sea running some distance into the land.

A *bay* has a wider opening than a gulf, and does not penetrate so deeply into the land, but is usually navigable.

A *creek* is a very small bay or inlet.

A *firth*, *frith*, or *estuary*, is the widening of a river into the sea.

* A *volcano* is a burning mountain which throws up lava, smoke or other matter.

† In America five kinds of plains are distinguished: *Savannahs* which are extensive grassy plains or meadows in the southern states of North America; *Prairies* are similar plains destitute of trees, found in the western states; *Llanos* are extensive plains in South America near the Orinoco, and *Pampas* are flats or plains in the basin of the La Plata, peculiar-shaped sand hills called "*Medanos*" appearing in some places; *Silvas* are forest plains on the banks of the Amazon.

A *channel* connects two greater bodies of water, and is not so wide as to be called a sea.

A *strait* is usually narrower than a channel, and connects two larger bodies of water.

A *sound* is a shallow strait, usually separating an island from the mainland.

A *lake* is a portion of water entirely surrounded by land.*

A *lagoon* is a kind of brackish lake, usually found in tropical latitudes.

A *river* is a stream of fresh water, rising inland, and flowing into a lake or sea. One river that flows into another is called an *affluent* or *tributary*. A *confluent* is a river joining another, after flowing some considerable distance in the same direction with that other. When a river flows through a rugged and hilly district of country, *cascades*, *cataracts*, and *rapids* are formed.

A *basin* includes the whole tract of country drained by a river, and all its tributaries.

A *watershed* is an elevated region in which rivers flowing in different directions have their sources.

A *delta*, so called from its triangular shape, resembling one of the letters in the Greek alphabet, is formed between the bifurcating mouths of rivers.

A *canal* is a kind of artificial river, made level for the transit of goods and passengers.

A *railway* or *railroad* is a road or way on which iron rails are placed, in order to facilitate the motion of wheeled carriages drawn by steam-power.

A *tramway* is a somewhat similar construction laid along the principal streets in our large towns, its carriages being drawn by horses.

Considering the earth in two hemispheres as separated by the equator, there is nearly three times as much land in the northern as in the southern hemisphere. This circumstance has an influence upon temperature at a certain distance north and south of the equinoctial

* In Scotland it is often called a *loch*, in Ireland a *lough*, and in England a *mere*. A mountain lake is called a *tarn*.

line. In the world, as divided into the usual eastern and western hemispheres, the quantity of land is nearly as five in the former to two in the latter.

In the different zones, the distribution of land and water is very nearly as follows :—In the torrid zone one-third of the surface is land; in the north temperate zone, one-half; in the south temperate zone, (it may be called a zone of water) one-tenth; in the north frigid zone, one-third. The south frigid zone may be regarded for the present as all water.*

By taking London as a centre, and dividing the globe into two hemispheres, we find nearly all the land in that with London as centre, while the other is almost entirely a hemisphere of water. Hence the influence of London and the British empire on the civilized world.

THE MAP OF THE WORLD.

On standing before the map of the world we see it is divided into two large circles, each containing one-half the globe. The map is drawn in this form to enable us to see the whole world at one view; for of a globe, which is the truest representation of the earth, we can only see one-half at one view. The circle on the right contains what is called the eastern hemisphere and Old World, which is divided into four great continents, Europe, Asia, Africa, and Australia, with the oceans by which they are surrounded, including part of the Arctic, Antarctic, Atlantic, Pacific, and all the Indian Ocean. It stretches from Cape Severo, in N. lat. 78°, to Cape Agulhas, S. lat. 35°. Its most western point is Cape Verd, 17½° W. long., its most eastern, East Cape, 170° W long. (corresponding to 190° E. long.) Its area is about 33 millions of square miles. To the south-east is found the large island of Australia, with other extensive islands in its vicinity.

The Old World is naturally divided into two parts by the Mediterranean and Red Seas; the connection being the Isthmus of Suez (now cut through by a ship canal—the result of the genius and perseverance of a Frenchman).

* The *supposed* existence of a southern continent modifies this computation.

The circle on the left, called the western hemisphere, includes the continent of America, with the oceans by which it is surrounded.

The western continent, or New World, extends from Barrow's Straits, 74° N. lat., to Cape Froward, in the Straits of Magellan, 54° S. lat.; and from Cape Branco, in Brazil, 34° 40′ W. long., to Cape Prince of Wales, 168° W. long. Its length is upwards of 10,000 miles, and breadth 3,200. Area, 16 millions of square miles.

The New World is divided into two portions by the Isthmus of Panama (crossed by a railway from Aspinwall to Panama). Thus the obstacles to the intercourse with the East presented by these two peninsulas—Africa and South America—have been in a great measure overcome.

The whole extent of land may be taken at fifty-two millions of square miles. Europe contains three millions eight hundred thousand, or a little less than one-thirteenth of the whole; Asia sixteen millions six hundred thousand, or very nearly one-third of the whole; Africa twelve millions, or a little less than one-fourth of the whole; Australia and the adjacent islands four and a quarter millions, or one twelfth of the whole; and America sixteen millions, or nearly one-third of the whole.

We perceive from the map that the form of the land differs in the two continents. In the Old World, or eastern continent, the extension is chiefly from east to west, while in the western it is from north to south. Their chief mountain chains follow the same direction. In the former the dry or rainless region extends like a zone from the west coast of Africa nearly to the eastern side of Asia.

RECENT RETURNS OF THE POPULATION.

	Square Miles.	Inhabitants.	Density per Square Mile.
Europe	3,776,493	309,178,300	82
Asia	17,079,383	824,548,500	48
Africa	11,415,894	199,921,600	17½
Australia and Polynesia	3,381,210	4,748,600	1½
America	15,687,840	85,519,800	5½

Making a grand total of a little under 52 millions of square miles, with a population of 1,423,917,000.—*Behm & Wagner.*

All the great divisions of the world differ from one another in many important particulars. **Europe**, the smallest, is more broken up, and more deeply indented with a longer coast line than the others, which, to a great extent, accounts for its less rigorous climate in winter, and less oppressive heat in the summer. Its inhabitants being more intelligent, more energetic, and better educated than those of the other divisions, are gradually spreading, either by colonization or conquest, over the rest of the globe. Possessing regular and stable governments, it has been, until lately, less subject to revolution and civil war than the other continents. With an abundance of the more useful minerals, coal and iron, it has very little of the precious metals, gold and silver. Its plants are not so exuberant nor so varied in foliage, nor has it such a variety of animal life as have the other great divisions of the earth.

Asia, with three peninsulas in the south, resembling the three of southern Europe, has the most opposite extremes of heat and cold, is possessed by a less energetic race, has the highest mountain, the most extensive plateau, the largest islands adjoining its coasts, and richer tropical productions than any of the other divisions. It resembles America in size, and, to a certain extent, in climate. It differs from Africa in its general outline, and is much better watered, with the exception of Arabia, which has a striking resemblance to the African continent. It possesses governments of the most diametrically opposite character, some parts of it still retaining the ancient patriarchal form, others the most absolute despotism; while others, though absolute in form, are limited in the exercise of their governmental functions, either by the customs or traditions of the country.

Africa, with its sandy deserts and scorching heat, resembles South America only in general outline, and the fewness of the islands around its coast; has few bays or openings of any kind, and still remains, to a great extent, unexplored. While South America is well watered and abounds in grassy plains, Africa has few large rivers; also their productions differ materially. Both continents project towards the east, and have a bending or indentation towards the west. The heated winds, which sweep over the great deserts of Africa, increase the temperature of southern Europe. It is the most backward division of the globe in civilization, and the least interesting as regards the progress of the human family. Notwithstanding the success of recent explorations, a great part of the interior of this continent remains an unknown region.

America, divided into two almost equal parts, differs in its general direction from all the other continents; extending in a meridional direction almost from pole to pole, it has every variety of climate, with most luxuriant productions. Its great mountain chains, instead of running parallel to the equator, like most of those of the Old World, take a direction almost north and south. Young and energetic, its

immense republic is making rapid strides in modern science, and extending its influence far and wide. Unlike Europe, it has its islands and openings much more on the eastern than on the western side. It is strikingly the land of earthquakes and volcanoes; and its mountains, rivers, lakes, and forests are of colossal dimensions. The most characteristic physical feature, however, consists in its extensive plains.

Australia, an island a little smaller than Europe, is very compact, with only a few wide bays; rich in the precious metals, it is becoming very quickly inhabited by the immigrants, who flock thither in search of them. The peculiarities of its animals and vegetables are well known. It has very few rivers, most of its surplus waters being carried off by evaporation; in this particular, and also in that of its interior being little known, it resembles Africa.

The water on the surface of the globe consists also of five great divisions: the Pacific ocean, lying to the west of America and to the east of Asia and Australia; the Atlantic ocean, lying between America on the west and Europe and Africa on the east; the Indian, lying south of Asia, east of Africa, and west of Australia; the Arctic, surrounding the north pole; and the Antarctic, surrounding the south pole. The area of these two oceans is estimated at 145 millions of square miles. The **Pacific**, which covers more than half the globe, has an area of eighty millions of square miles, is 10,300 miles by 9,200, and was so named from the erroneous supposition that it was almost free from storms. It is quite open to the south, but almost closed to the north, where a narrow strait unites it with the Arctic Ocean. The **Atlantic** rolls in a great valley separating the two hemispheres, with a breadth of 3,600 miles at its widest part, and 800 miles at its narrowest (from Norway to Greenland), and an area of 25 millions of square miles. It is open at the south, but partially closed by islands towards the north.

The **Indian Ocean** is a little smaller than the Atlantic, and lies north of a line drawn from the Cape of Good Hope to the south of Tasmania.

The **Arctic** Ocean is round the north pole. It is much smaller than any of the others, nearly covered with ice, and almost shut in by the great continents. The **Antarctic**

Ocean is south of a line from the south of New Zealand to Cape Horn, thence to the Cape of Good Hope, by Tasmania to New Zealand.

Mountains.—In the great continent, a line of continuous mountains stretches from east to west; the highest ranges in a direction nearly parallel to the equator, and some chains of less height at right angles to them. In America the principal chains follow, in like manner, the general direction of the land, and run north and south.

A series of mountain systems extends from Behring's Strait, north-east of Asia, to the Strait of Gibraltar, south-west of Europe. Four chains in these run through Central Asia parallel to one another: the Altai, Thian Shan, Kuen Lung, and, most southerly, the stupendous range of the Himalaya, the highest in the world: these all seem to unite in the Hindoo Coosh, in Afghanistan. The range then extends to the Elburz Mountains, along by the Caspian Sea (south), and is continued through Persia, Armenia, Asia Minor, and then by the Caucasus to the Black Sea. This range may be regarded as continued in Europe by the Balkan, Eastern Alps, and Carpathian Mountains, which seem to pass into the mighty mountain system of the Alps, containing the most lofty summits in Europe. The next continuation is the Cevennes across France, stretching south-west to the Mediterranean. The valley of Languedoc here intercepts the prolongation to the Pyrenees, which, connected with the Spanish mountains, bring us to Cape Finisterre.

It is remarkable that one side of a mountain slope is more gradual than the other. That on the N. of the Himalayas is 2,500 miles, while that on the S. is scarcely 500. The same of the Pyrenees, Andes, etc.

The shape of a country seems often to depend on, or follow, the direction of its mountain chains. Italy is a remarkable example; Scandinavia, as traversed by the Dofrefield Mountains; Madagascar, Cuba, and Jamaica, among islands, are also examples of this coincidence.

A striking feature in the scenery of mountains among

the more elevated peaks, is the vast surface of snow which everywhere meets the eye; and in the deep valleys the vast accumulations of ice which are found.

The outline of mountains is to a great extent determined by the nature of the rocks composing them.

Volcanoes.—Of all the phenomena which mountains present, certainly the most remarkable are volcanoes, or burning mountains. Four of these are found in Europe: Vesuvius, Etna, Hekla, and Stromboli. Most volcanoes are situated near the sea, and some even under its waters, as is proved by islands and rocks rising in its bosom after earthquakes. The remains of several extinct volcanoes are found in many countries, particularly in France and Rhine Prussia.

Hills.—In a small district, elevations which in a continent would be termed hills, are called mountains. Another distinguishing feature between hills and mountains is that the former are usually isolated, whereas the latter occur in chains or groups, as already stated.

Plateaux.*—These include all table-lands or elevated plains, although many of them bear no resemblance to the *table-like* form.

The most remarkable table-land in the world is in central Asia, including Thibet (15,000 feet above sea level), and the desert of Cobi. The plateau of Mexico is elevated 7,000 feet, and that of Quito, in South America, still higher. The table-land of Spain is the most considerable in Europe, and exceeds 2,000 feet in height.

Plains or Lowlands.—In Russia an extended plain stretches from the Arctic Ocean to the Black and Caspian Seas. Crossing the Uralian Mountains we come to another plain of greater extent, sloping to the Arctic Ocean. The Great Desert of Africa is another plain, for the most part, of moving sand, on which rain never falls. North America contains vast *savannahs*, or plains, in the valley of the Mis-

* Professor Ansted, in his admirable treatise on Physical Geography, limits the term *plateau* to an elevation at least 600 feet in height.

sissippi, to the east of the Rocky Mountains; in other parts *prairies*, or natural meadows, alternating with forests. In South America the plains are called, towards the Orinoco, *llanos;* in the middle, where the Amazon rolls, they are called *silvas*, or forests; and further south, *pampas*.

Geology.—An examination of the earth's crust, in railway cuttings, mines, and quarries, and in the banks of rivers and faces of cliffs by the sea-shore, shows us that it is formed of *beds* or *strata* of various rocks. Were it not for the upheaval of large portions of these strata in various parts of the world, our knowledge of the interior of the planet on which we live, would be scanty indeed. This crust is supposed to be about ten miles in thickness, whereas the deepest mine is little more than half a mile.

Geologists have derived much knowledge from the study of these rocks. The history of this earth for thousands, perhaps millions of years, prior to the date to which any record brings us back, is imprinted in them. The whole earth is supposed to have been, at one time, a liquid mass of molten matter, such as is thought to exist at present 40 miles beneath its surface; this, by gradually cooling, hardened into what are called the igneous rocks. Mountain chains, and the other inequalities which mark the surface of our globe, are supposed to have originated from the internal expansive force of the earth acting on portions of her crust, the surface in these parts having been thus gradually heaved up or occasionally broken into fissures through which volcanic matter was erupted.

From the existence of volcanoes, and the frequency of earthquakes, we are led to believe that there must be elastic fluids, subjected to enormous pressure, in the interior of our planet.

Above the igneous or oldest rocks—such as granite—are the *aqueous*, which have been precipitated from a fluid—water—in layers or strata—hence called *sedimentary* rocks, such as sandstones, slates, limestones, chalk, beds of clay—till we come to the surface soil, formed by the disintegration of rocks of various kinds, acted on by air and water, and mixed with animal and vegetable remains.

Some authorities make three divisions of rocks: the *igneous*, or *volcanic;* the *aqueous*, or *sedimentary;* and the transformed, or *metamorphic*. These latter, however, are included in the sedimentary; but they have their nature changed by the action of heat, after deposition—such as marble from limestone. The igneous rocks, in a molten state of intense heat, coming in contact with stratified rocks, caused the change.

The formation of these various classes of rocks is still going on.

The igneous matter in the earth, striving to burst its way through the rocky crust, encounters an opening through the centre of a volcano, and is ejected as *lava* from the summit. This, by its contact with rocks, and by the action of vapours usually accompanying volcanic eruptions, *metamorphoses* them. Sedimentary or stratified rocks are formed from previously existing rocks strewed as mud at the bottom of the sea, and then subjected to pressure by the overlying mass.

Metallic veins are said to originate by *sublimation*, or by vapours rising through fissures, and leaving deposits.

As the stratified rocks have been formed by the disintegration and gradual wearing away of the unstratified, these small portions carried along by water in motion, settled at the bottom of ancient lakes and seas, and with them the remains of animals and plants. These *organic* remains are called *fossils*. Among the fossils are the bones of animals, shells, plants, reptiles, many species of which are dissimilar to any now in existence in the water or on the land.

Limestone is altogether formed from animal remains, mostly microscopic shells. Coal consists exclusively of the remains of plants.

The volcanic forces generated by heat in the centre of the earth, besides causing earthquakes, give rise to *thermal* or hot springs and gases, which ooze up in various places; and it is also thought that the gradual rising and subsidence of land in parts of the world are produced by these forces. The existence of this heat is proved by the increasing warmth of the interior as we descend into the earth. In mines, for every 54 feet we go down, the temperature increases 1°. Hot springs and gases further confirm this conclusion, as well as the fact that the water of artesian wells becomes warmer as the depth increases. The rate of 1° to 54 feet, will give the temperature of boiling water at two miles' depth, that of red-hot iron at nine miles, and at forty miles every known substance must be in a state of fusion.

We thus find satisfactory explanation of geological phenomena.*

The Waters consist of *springs*, *rivers*, *lakes*, and the *ocean*.

Springs arise from sheets of water stored underground; and as water will "rise to its level," if the reservoir be in a hill the spring on the lower ground will gush up as a fountain; on the other hand, if the source of the supply be deep below, the water will not rise to the surface, and must be brought up by a pump or by a bucket.

* Physical Geography is the earth's newspaper of *to-day*: Geology is her history of the *past*. As things are *now*, they were and perhaps ever will be.

These internal supplies are formed by rainwater or melted snow entering the earth through fissures, or trickling through the soil, till it meets with some stratum through which it cannot pass, such as clay; it then continues to rise till it finds an opening through which it flows out as a spring.

Spring water contains some solid substance in solution in the form of salts, such as earths, rocks, and metals. *Soft* or rain water has a very small proportion of these in solution. *Hard* water has much more; these substances, at least one or more of them, in solution, causing the hardness. *Mineral springs* contain a great abundance of these salts.

Rivers form the natural drainage of the land, and return to the sea the surplus waters circulating between the ocean, air, and dry land. Besides this, rivers fill many important offices. They enrich the plains at the expense of the mountains, collect nourishment for plants, carry food to the sea for its inhabitants, and in most instances form convenient thoroughfares for commercial intercourse. River water contains large quantities of lime, held in solution, from which sea animals secrete their hard parts. The *position* of mountain chains affects the direction of rivers; when they are far from the sea the river is generally long and navigable; when near the sea it is on the contrary rapid and precipitous.

Rivers run generally at right angles to the mountain chains; and on account of their *direction* being north and south, most of the great rivers flow from west to east; few towards the west. The Atlantic Ocean receives the greater part of the fluvial waters of the world.

A slope of more than 1 in 1,000 feet gives rise to *rapids*, and renders rivers unnavigable. Matter carried in suspension is often deposited in large beds, of a triangular shape, around the mouths of rivers, which accumulations are called *deltas*.

Many rivers overflow their banks, more especially in the torrid zone, following the wet season or the melting of the snow. This circumstance causes them to leave a deposit of mud along the valleys through which they flow, which after their subsidence often gives rise to great fertility.

Lakes.*—Lakes may be described under four heads:—

* "As rivers are natural channels on the earth's surface, along which water that has fallen from the skies, as rain, or rises from the earth in springs, makes its way from the higher grounds to the sea,

If several springs and small streams of water fill up a cavity or basin, and evaporation is not sufficient to dispose of the whole supply, the waters will form for themselves a channel and issue forth as a river. Such is the origin of the Mississippi, flowing a considerable river from Lake Itasca; of the Volga, which flows from Lake Teruoff; of the Oxus, rising in Lake Sir-i-kol, Thibet; and of the Nile, issuing from Lake Victoria Nyanza.

Another class of lakes consists of those which occur in the course of a river, as Ree and Derg in the line of the Shannon, and the Sea of Galilee along the Jordan. The waters of both these kinds of lakes are always fresh.

A third class consists of lakes which have streams running into them and have no outlet visible, such as the Dead Sea. These are for the most part salt. The purer parts of the water are taken off by evaporation or sink into porous beds in their basin, and leave a deposition of mineral substances carried from the land, including a considerable quantity of saline particles.

Lakes which have no visible outlet, or any water flowing into them, are supplied by springs in their beds which compensate for the water lost by evaporation. These are supposed to be craters of extinct volcanoes: lake Albano, near Rome, is an example.

Some lakes are *periodic*, and are most likely supplied by intermitting springs. Very small mountain lakes are called "tarns," such as those among the Welsh mountains.

Lagoons are usually found on flat coasts, and are almost always shallow.

The Ocean.—Nearly three-fourths of the surface of the globe is salt sea, and it has been computed by Maury to

so lakes are depressions, or basins, in which the running water, checked in its progress, is forced to accumulate until it overflows the edge of the basin, or till it finds an outlet of equal capacity with the running stream. Should there be no such outlet, it is clear that the water must continue to accumulate, until the evaporation from the surface equals the quantity of in-coming water."

have an average depth of two and a half miles (others reckon it at less), and to weigh 309 of our atmospheres The functions performed by the sea are various. The greater part of the dry land has been shaped into its present form by the sea and "its artificers" in prehistoric ages. The sea, by its currents, winds, and rainfall, moderates the cold of the frozen zones and the heat of the torrid. It is the treasure-house of the rains and rivers. The action of the waves breaking rocks to pieces, and forming sand for future use in the production of land in other places, is daily going on around our coasts. In other places its insects are building up islands: future habitations for man.

The ocean has multiplied those bonds which unite the whole human race. It teems with varieties of animal life, some beautiful and highly organized. Its boundlessness and immensurability deeply excite the imagination. Proximity to ocean has had on many nations a mighty influence on character and intellectual culture.

Seawater has the following ingredients in 1,000 grains (*Maury*).

Pure water, . .	962·	Sulphate of Magnesia,	1·2
Chloride of Sodium,	27·1	Sulphate of Lime, .	·8
,, Magnesium,	5·4	Carbonate of Lime, .	·1
,, Potassium,	·4	Residuum, . . .	2·9
Bromide of Magnesia,	·1		

This residuum consists of iron, copper, silver, silica, iodine, etc.; in fact, something of everything that water can hold in solution is to be found in the sea.

It has been stated that lakes which have no outlet, with rivers running into them, are salt. The ocean may be considered a great lake, with almost all the rivers of the world running into it, but none out; hence its saltness, in a great measure, may be accounted for.

Why seawater is salt is partially answered by saying it tends to check too great evaporation, which would change climates. The saltness increases with the depth; in the Gulf of Bothnia the water is more salt in winter than in summer, in consequence of its receiving so much more fresh water in the latter season. The Baltic Sea, connected with the ocean by a very narrow strait, and receiving a great number of rivers, is much less salt than the ocean. The ordinary idea that salt preserves the waters from corruption is now controverted. The salts of the sea assist in circulating its waters by giving them "dynamical force."

Salt water does not freeze so quickly as fresh water, so that it is only in very extreme cold that the sea is covered with ice. Fresh water freezes at 32°, its point of greatest density being 39°. In sea water the greatest density corresponds with the freezing point, which is 4° below that of fresh water, as the former expands in cooling from 39° to 32°, and the latter contracts to its freezing point (28°).

Fresh water is coldest at top, and sea water warmest at top under a cold atmosphere. Thus, by the cold water descending, and the warmer ascending, the "aerial ocean" which surrounds us, the sea tempers climate everywhere in its neighbourhood. Ice is formed below in sea water, and then immediately ascends in small particles like a "snow storm in miniature." Thus, the salts of the sea cause a downward and an upward motion in its waters. Evaporation, by drawing off the fresh water abundantly as in the intertropical regions, causes the remaining waters to be more salt, and consequently heavier—equilibrium is disturbed, and currents are formed.

The ocean must be understood to possess a *mean* level, although local winds and currents may produce some difference, but not to the extent formerly supposed. Baron de Humboldt says, that "The Red Sea, at or near its northern extremity, at the Isthmus of Suez, is at different hours of the day from 24 to 30 French feet above that of the neighboring part of the Mediterranean." This difference of level has, since the cutting of the Isthmus, fortunately not been found to exist, although believed in from the earliest times.

There are two laws to be borne in mind, which will give a general key to the explanation of currents and counter currents.

1. "From whatever part of the sea a current runs, back to that part a current of equal volume must flow.

2. "Whenever and wherever the waters of the sea in one part differ in specific gravity from the waters in another part of the sea, the heavier waters will flow, by the shortest and easiest route, towards the lighter, and the lighter will, in turn, seek the place whence the heavier came."—MAURY.

These laws will account for the upper current from the Baltic, where the water is to a large extent fresher than the German Ocean, and an undercurrent of salter and heavier water from the German Ocean into the Baltic. The currents into and from the Mediterranean

proceed from different causes: the evaporation from the surface of the Mediterranean being in excess of the fresh water poured into it by rivers, causes its waters to be heavier than those of the Atlantic. These heavier waters pass in an under current to this ocean at the strait of Gibraltar, while to supply the loss by evaporation, a larger over-current enters it from the Atlantic. Were it not for the under current from the Mediterranean, that sea would become a salt bed.

These are two examples of currents caused by means of the "salts" of the sea giving a different specific gravity. There is an under current from the Red Sea (rainless region) into the Indian Ocean, owing to similar causes.

The **Gulf Stream** is the most remarkable of permanent currents. It is an oceanic river, carrying warm water into higher latitudes, and in connection with it are other currents carrying back its waters, made cold by the frosts and ice of the Arctic Sea. It originates on the African coast, chiefly from water carried there by a current from the Great Southern Ocean. The waters are deflected to the west by the coast north of the Gulf of Guinea, and by the more rapid rotatory motion of the earth towards the east in the equatorial regions, causing the waters coming from towards the south pole to have an *apparent* motion in the opposite direction, namely, towards the west. These waters, as it were, lag behind, and as regards the earth's motion, seem to be contrary to it, and are contrary to it as regards the *adjacent* land and water. Another small current from the Bay of Biscay joins it from the north; it now forms an equatorial current across the Atlantic to the coast of South America where the triangular form of coast at Cape St. Roque separates it into two branches, the smaller one flowing south along the eastern coast till it is lost in the Antarctic Ocean. The main branch continues its westward course through the Caribbean Sea, increasing in temperature under a tropical sun, and, through the configuration of the land around the Gulf of Mexico, accumulates there with a heat still increasing. From the Gulf of Mexico it issues as an impetuous stream, at the rate of from 80 to 100 miles a day along the American

coast, with a diminishing velocity, but an increasing breadth, until, deflected to the E. by the banks of Newfoundland, where it meets a cold current from the Arctic Ocean, which dips under and flows S. as far as the West Indies. Dr. Carpenter maintains an under current is going from the poles towards the equator, and a surface current *vice versa*.*

A large branch of the Gulf Stream crosses the Atlantic to the Azores, where it arrives in about 28 days, and continues a north-easterly course to the British Isles, and even to the most northerly part of Scandinavia. Where the stream is deflected to the east at Newfoundland's banks, it sends a portion of its waters southerly, which, gradually losing their motion, become nearly stationary west of the Canary Islands. These waters are covered with sea-weed, and form the *Sargasso Seas* studded with sea plants. Through this Columbus sailed in one of his voyages to America.

By the Equatorial current the west side of Europe, and especially Ireland, has its winter modified to a considerable degree, and its temperature raised.

Many theories have been advanced as to the cause of the Gulf Stream. If not wholly caused by the trade winds, and a dynamical power residing in the difference between the specific gravity of the cold water of the N. and S. Atlantic, and water in tropical latitudes, it is certainly greatly influenced by these circumstances.

* The water of the Gulf Stream is distinguished from the other waters of the ocean by the higher temperature, greater saltness, indigo colour of the surface, the floating sea-weed, and the general warmth of the surrounding atmosphere, particularly in winter. It is said that a drop of water requires 2 years and 10 months to complete the course of the Atlantic with the Gulf Stream. If a boat not subjected to the influence of the winds be placed at the Canaries, it will reach Caraccas in 13 months, complete the tour of the Gulf of Mexico in 10 months after, and in 45 days more arrive at Newfoundland. By it fruits of the West Indies come to the coast of Scotland and Norway. The *debris* of the vessel *Tilbury*, burnt in Jamaica, was thrown on the coast of the former. The *Blue Jacket* was burnt between the Falkland Isles and C. Horn, 1819: two and a-half years after, a portion of the wreck was found on W. coast of Australia, 6,000 miles distant.

In the Pacific Ocean, the general tendency of the waters at the equator is, as in the Atlantic, from east to west. This flow of water is, in addition to the reasons already given, said by Humboldt to be regarded as the joint effect of the trade winds, and of the progressive propagation of the tidal wave. The eastern parts of continents modify its direction. From the great expanse of waters in the southern sea, the chief currents of the ocean have their origin there. A large oceanic current commences and flows north-east to the west coast of South America, lowering its coast line temperature, then bends westward at the tropic of Capricorn, and forms, with another like current from the north, what is called the Great Equatorial Current. It then crosses the Pacific in a wide belt, enters the Indian Ocean through the many channels among the islands of Australia, continues to flow west, till it reaches Africa, passes south on both sides of the island of Madagascar, and is lost in southern waters.

Between Mozambique and Madagascar, the heated waters accumulated in the Arabian Sea rush with much velocity through the channel, and blend the warm waters of the tropics with the cold waters of the south.

On the other hand, the Gulf Stream blends the warm waters of the tropics with the north polar waters.

Other currents, called *variable* and *periodic*, are caused by long continued winds, tides, melting of ice, etc.

Tides.—The attraction of the sun and moon on the water causes tides. The great *tidal wave* takes its rise, like the great equatorial current, in the Southern Ocean's wide expanse. These waves occur twice each day, or, more strictly speaking, twice every twenty-four hours and fifty minutes. When the tidal wave is out at sea, the waters recede from our shores, and it is *ebb tide* or *low water*. As this wave strikes the coast when following the moon in her course, it is called *flood tide* or high water.

The tidal wave first reaches the west of the British Islands round by the Orkneys, and meets at the mouth of the Thames another portion of the wave which has been travelling meanwhile through the British Channel.

The cause of another tidal wave at the same time on an opposite meridian of the earth is said to be the moon drawing the earth *away* from the water by means of attraction.

While the moon moves round the earth, it requires about 50 minutes to bring the same part of the earth's surface under the moon in addition to the 24 hours allowed for the earth's rotation on its axis.

The sun, in a less degree than the moon, exercises a similar attractive force on the earth; so that at the times of new and full moon, when these influences are combined, spring tides, or tides exceeding the average height, are caused. At quadrature, the sun and moon act against each other, and neap tides are caused. In mid-ocean, the tidal wave is said to be 3,000 miles broad and 5 feet high.

Near the land, this wave rises much higher, especially in narrow channels and bays open towards the south. Its height is, to a great degree, dependent on the contour of the coast. At Bristol, it often rises higher than 50 feet in the English Channel, 12½ feet, and in the Bay of Fundy, Nova Scotia, 120 feet. When against the current of a river, as the Ganges or of one opening into a funnel-shaped channel, as the Severn, a great wave rolls violently and suddenly, it is called a *Bore;* and this rises 180 feet in the Maranon.

The height of the tides is modified by local circumstances. When they come from a great expanse of water upon an irregular and broken coast, where their force becomes concentrated, they rise higher, as on the west coast of Europe and America, and the east coast of Asia. On the contrary, in seas surrounded by land, such as the Mediterranean and Baltic, only a very small rise in the water is perceptible.

Wind Waves.—The height of waves on the ocean depends on the direction in which the wind strikes the water, and on its velocity and force at this point.

The largest waves are met with to the south of Africa, where the expanse of sea gives room for their formation. The greatest height of waves has been ascertained not to exceed 40 feet.

It is but the form of the wave that advances; the water composing it rises and falls in nearly the same place. An apt illustration of the motion of a wave may be given by shaking one end of a carpet, when something like a wave will run along it. The same may be said of the tidal wave. Were it otherwise, ships would be dashed to pieces, and the sea cease to be the highway of the nations.

Waves coming into shallows near the shore, or striking on rocks, produce *breakers* or *surf*. This is accounted for by the lower part of the wave being kept back by the strand, the upper part moves more quickly, and consequently rolls over.

Sometimes, on the west coasts of Ireland, and on the Cornish coast, when the air is calm, the sea rolls in great waves. This is called a *ground swell*, and is the effect of a storm raging out in the Atlantic many miles distant. According to the direction in which it is heard, a storm is predicted, or fine weather expected. This ground swell is also felt on other coasts open to the direct waves of the ocean.

The Atmosphere is the "aerial ocean" which surrounds the earth on all sides, and at whose bottom we live. It is about 50 miles in height, and has the same weight as an ocean of water would have of the same surface, and 32 feet deep. *Dry* air contains 20·8 parts of oxygen to 79·2 of hydrogen. It also contains from 2 to 5 thousandth parts of carbonic acid gas, and a still smaller quantity of two other gases, carburetted hydrogen and ammoniacal vapour. Water in the form of vapour is always present in the air. These substances all move freely among each other, mixed but not chemically combined, ready to perform the functions allotted to them. Oxygen sustains life and combustion, the carbonic acid and nitrogen promote and perfect vegetable growth, while the vapour descends in showers or dew.

The air is elastic, and therefore denser in the lower regions near the surface of the earth or sea than it is on the tops of lofty mountains. This weight or density is proportional to the height above sea-level. The air at this level has a weight of 14½ lbs. to every square inch This is what the air weighs *resting* on that square inch, and is balanced by a column of mercury 30 inches in height. The mercury thus balanced by the air, with slight variations, stands at the same height everywhere at sea-level, and falls in a geometrical ratio as we ascend; we can by this means ascertain the height of a mountain plateau, or other elevation. The first 87 feet we ascend a mountain, the *barometer* falls 1 inch; we ascend through a greater space as we get higher and higher to cause the same fall.

The presence of vapour, the currents of wind, and electric action affect the density of the air at the same place: hence, a fall in the mercury portends the approach of rain and storms.

The temperature of the atmosphere diminishes as we ascend, and this diminution is consequent on its increased rarity. In the lower regions of the air, the decrease of heat is one degree for 350 feet of ascent. The tops of mountains even at the equator are always covered with snow.

The atmosphere reflects light. If it were not so, total darkness would surround us except where the sun was shining. Twilight is due to the refraction of rays of light in passing through the atmosphere. It conducts sound in every direction at the rate of 1,142 feet per second. It moderates temperature, by the interchange of air between polar and equatorial regions, attended by the condensation of vapour.

Refraction.—Rays of light, in passing from one medium to another of greater or less density, deviate from a straight line, and appear bent where the one medium comes in contact with the other. This property is called refraction. It may be illustrated by the following experiments:—

If a walking stick or the blade of an oar be partially plunged into a river or other collection of water, and held in a slanting position, it will appear bent; if its inclination be increased, the refraction is also increased; but if the stick be held upright, no refraction takes place; for the effect of the rays of light being the same on all sides, no deviation from the original direction of the rays takes place. Or, again, if you place a shilling or any small coin in an empty basin, as near the centre as possible, and retire to such a distance as just to lose sight of the object; let another person pour in more water, and the coin will soon re-appear. The experiment may be repeated until the basin is full. The edge of the basin may be supposed to represent the horizon, the water the atmosphere, and the small coin the sun, which the power of refraction causes to appear above the horizon when it is actually below it.

Parallax is the difference between the true and apparent position of a heavenly body.

Twilight.—Had we no atmosphere, we should have no twilight, and instead of the gradual transition in the evening from light to total darkness, and in the morning from darkness to daylight, we should be subject twice a day

to the instantaneous change from darkness to sunlight, and *vice versa*. When the sun is not more than 18° below the horizon, his rays, striking into the higher region of the atmosphere, and being by the clouds and vapours suspended in it reflected to the earth, cause twilight, which varies in duration according to the season of the year, latitude of the place, and the state of the atmosphere.

WIND.

Around the middle of the earth, in consequence of the sun being constantly vertical or nearly so, the air becomes heated, and, consequently, ascends, while the cool air from the colder parts of the earth, north and south, rushes in to supply its place, and give rise to the most constant and regular winds on the surface of the globe, called *trade winds*, so named from their being favourable to navigation and trade. These winds extend about 30° north and south of the equator; to the N. of the equator their direction, which is greatly influenced by the rotation of the earth on its axis, is from the north-east, and on the south of the equator from the south-east. Of course, the force and direction of these winds are very much affected by local causes, such as the intervention of high mountains, sudden perturbation in the atmosphere, etc. Their course is most permanent and regular in the open seas. The *monsoons* are to a certain extent modifications of the trade winds, and are found in the Indian Ocean, and shift their direction every six months.

Sirocco, *harmattan*, and *simoon* are hot and pestilential winds originating in the great African desert.

A *hurricane* is a storm of excessive violence, most frequently occurring among the West Indian islands.

A *cyclone* is a hurricane blowing in a circular direction, often with a radius hundreds of miles in length. A *whirlwind* is caused by the meeting of currents of air coming in different directions.

Typhoons are a kind of whirlwind moving with great impetuosity in the Chinese seas.

Motions of the Air.—The chief cause of motion in the atmosphere is change of temperature. Heat produces expansion of air, which rises and, as it were, *overflows* to a place of greater coldness, while the cooler air rushes in from all sides to take its place: in this manner currents of air are originated. Great movements of this sort are daily going on between the centre of the torrid zone and the polar regions. The portion of the earth at the equator is heated constantly by exposure to a vertical sun, and a large quantity of vapour being drawn into the air from the sea; and as this vapour is lighter than the surrounding air, this central part of the atmosphere expands, and consequently rises. A large portion of the vapour is condensed into cloud and rain; the latent heat of the vapour is set free; further expansion ensues, and the air is made warmer and lighter. That part of the earth where this takes place is at the equator, chiefly towards the north, and is designated the *Equatorial Calm Belt.*

The prevailing winds on each side of this calm belt blow from the south-east to the south of the equator, and from the north-east north of the equator: these winds are called the *trade winds.* The overflow of heated air at the equatorial calm belt passes on each side towards the north and south polar regions, and, gradually cooling in its progress, meets the earth about the tropics of Cancer, north, and Capricorn south: two *belts of calms* are there formed. Currents which left the polar regions to supply the place of the air drawn up by heat meet at the tropics with the currents from the equator. Both currents had, for the most part, travelled in the upper regions of the atmosphere, and now become surface currents: one towards the equator, forming the trade winds; the others towards the poles, forming the *counter trades* or south-west winds, which generally prevail in the northern hemisphere, and south-west of the southern, and ending in the polar calms.*

* Let us imagine the surface of the earth for the first time to be exposed to the action of a tropical sun at the equator. It is evident

The *calms* at the equator or "*Doldrums*" constitute a belt of almost constant rain; those at the tropics are comparatively *dry*, and bring a dry season to those places within their range. The cloud ring of the equatorial calm belt moves also, bringing in its course a *rainy* season, following the sun in its declination.

If the earth did not rotate on its axis, these movements of the air between the equatorial and polar regions would be directly north and south on each side of the equator; but while the currents from the poles approach the inter-tropical regions, they are passing to where the earth has a more rapid rotatory motion (as was explained in relation to the equatorial current of waters) from west to east, than they had acquired in the parts from whence they came. We, as it were, strike against them, from their being *partly stationary*, as regards motion towards the east, and we experience an east wind.

The currents, on the other hand, coming from the equatorial parts, where they had, in common with the earth, a rapid motion from west to east, blow as if from the west, while going to the north and south, and form the prevailing south-west winds of the north temperate and north polar regions, and the south-west wind of the south temperate and south polar regions. From the prevalence of south-west winds in the North Atlantic Ocean, the average voyage from New York to Liverpool is only about half as long as the return voyage.

There is more irregularity in the winds called counter-trades than in the trade winds, owing to the former encountering polar currents, and also from a variety of local causes.

The atmosphere, by means of these two great currents, moderates the extremes of heat and cold, and renders

the earth's surface imbibing the heat more quickly than the atmosphere, the air immediately over the surface would quickly become heated, and consequently ascend, being lighter than the air around, when the cool air would rush through the lower regions of the atmosphere from every side to supply its place. This air becoming heated, rushes up from the earth into higher regions of atmosphere, and goes towards the N. and S. to supply the place of the air coming in a contrary direction. But these currents of air are affected in both cases by the motion of the earth on its axis; and hence they neither proceed directly north nor directly south.

the earth habitable to a greater extent than otherwise would be possible.

A knowledge of the aerial and oceanic currents is of much value to mariners for the purpose of shortening voyages.

Monsoons.—The cause of the monsoons is the rarification of the air over rainless tracts, chiefly desert, in the interior of Asia and Africa. This occurs for the most part in summer and autumn, when the arid surfaces have become much heated by exposure to the sun. During our summer, when the sun is vertical north of the equator, a south-west wind (the north-east trade wind turned backwards) blows over India and the adjacent countries from May till October. This south-west monsoon blows from the sea, and comes impregnated with moisture, which is abundantly perceptible over the land; the latent heat then liberated by precipitation of rain causes further vertical expansion and currents of air rush with greater force towards the central plateau of Asia. From October to May the wind resumes its usual direction of north-east, being, in fact, the northern trade wind, but improperly called the north-east monsoon.

Monsoons prevail in the Gulf of Mexico, on the western shores of Africa, and some of much smaller force are felt on the coast of Australia, blowing, when the sun is south of the equator, towards the heated and dry interior. Monsoon winds are also called *Periodic*.

The change from one monsoon to the other, though gradual, is generally accompanied by great storms; and these winds are said to be arrested in their course by mountains of moderate height, clearly proving that they do not exist in the higher atmospheric regions.

Sea breezes occur in hot climates, in places bordering on the sea, and are caused by the unequal heating of the land and sea. They may be classed among the *periodical* winds.

The land during the day becomes more heated than the sea, the air above it becoming rarified ascends, and to supply its place a current sets in from the water towards the land, which blows from about nine o'clock in the morning to five

in the afternoon. After sunset the land cools rapidly, while the sea retains much of its heat, and the air above the latter becoming more rarified than the stratum of air over the land, a *land* breeze, which continues during the night, is the result.

Vapours, Clouds, Dew, etc.—It is well known that water is always present in the atmosphere as vapour. The warmer the air the greater the quantity of vapour it will contain. A cubic foot of water at freezing point will hold but two and a-half grains of moisture, while at 70° Fahrenheit, it will contain 5¾ grains. Air is said to be *saturated* when it can hold no more vapour. If air saturated be over an ocean or sheet of water and become increased in temperature, vapour will ascend from the water below till the air becomes saturated at the new temperature.

If the temperature of the air thus saturated be again lowered, it will have more than sufficient vapour to saturate the air at its lower temperature, and part of the vapour will be deposited on the surface under it as dew. The temperature at which this takes place is called the *Dew Point*

The amount of vapour in the air is measured by the Hygrometer.

The temperature of the air and the *dew point* enter largely into considerations as to the probable weather. If they are near to each other, and a further reduction of heat in the air likely to follow, some vapour must be precipitated and rain will follow; if the temperatures are not near, dry weather may be expected.

The heat of the sun is constantly drawing up vapour from the great ocean, and from every other exposed surface of water all over the globe, and even from masses of *ice* and *snow*, this vapour being distributed by the winds everywhere through the atmosphere.

When from any cause air saturated becomes cool, the vapour condenses, that is, forms little water drops like fine powder so to speak, and is visible as *fog*, *mist*, or *cloud*. The more rapid cooling of the land during a night in calm clear

weather causes the air which is in contact with its surface to cool and condense its vapour, which falls as dew.

Anything hindering *radiation* prevents the formation of dew. Gardeners put a screen over their plants at night to protect them from frosts, by keeping them from being cooled too much. On the same principle, as every person must have perceived, there is very little dew on cloudy nights.

If the condensation of vapour takes place in the higher regions of the atmosphere, *rain drops* are formed; dew drops by contact as above explained.

When vapour is condensed into the solid state at once by greater cold, crystals are formed, called *snow* when this congelation takes place in the air, and *hoar frost* when it occurs by contact with the ground, leaves of trees, etc.

If drops of rain are cooled below 32° they form *hail*: this happens either by their passing through a stratum of cold air, or from very rapid evaporation.

Rain is generally formed by the *mixing* of currents of air at different temperatures; the warmer air, being deprived of its heat, parts with its moisture, which falls in drops of rain.

Most evaporation takes place in the torrid zone, from the great heat of the sun there, and the immense quantity of water exposed to his rays, and a large portion of the vapour is carried towards the north and south poles by the currents of air we have spoken of as prevailing between the poles and the equator. The high temperature of the air in the torrid zone causes this great quantity of vapour to remain invisible, and though the atmosphere may appear dry and clear, it is loaded with moisture. In colder regions, though the air contains less moisture, owing to the cold it often takes the form of clouds or fog. The London fog is caused by an immense quantity of smoke rising into a calm atmosphere.

Hence the temperate and frigid zones have, generally speaking, a cloudy sky, and mists and fogs are frequent.

When the sea is warmer than the air above it, *fogs* are formed. This more frequently occurs when the current of air from the poles descends to the surface of the earth,

as it often does about the Banks of Newfoundland, and at the seaports of Great Britain in winter.

More rain falls at the equator, following its zone of calms, than towards the poles, and more on the western than on the eastern side of continents in the temperate zones, the reason being that the winds in both temperate zones move for the most part in a westerly direction, and come full of moisture. More rain falls in Ireland than in England. There is an average annual rainfall for 208 days in the former country to 154 days in the latter. In India, the fall of rain depends on the monsoons. In the torrid zone, the eastern sides of continents, especially America, have most rain, owing to the trade winds. The greater the distance from the coast, generally speaking, the less the fall of rain.

Although we have more rainy days in winter than in summer, yet it often happens in this country that the quantity of rain which falls in June, July, and August, exceeds what falls during the remaining months of the year.*

Local causes, such as prevailing winds, variations of the surface of the earth, modify the rainfall of a district. Rainfall is more abundant in the New than in the Old World. Intertropical America has a rainfall of 115 inches; the same latitude in the Old World only 76 inches. The less compact form of the American continent in the equatorial regions is probably the cause. Mountains and extensive forests, by presenting a cool surface to the winds, produce an increased rainfall. At the equator, 95 inches of rain fall in 80 days; in England, from 37 inches on the west to 22 inches on the east, on 154 days; at St. Petersburgh, 17 inches in 100 days.

The annual average rainfall of the United Kingdom is just the same as that of Ireland, namely, 35 inches.

In intertropical countries the rains are periodical, or recur at regular intervals at a certain time of the year, and only fall for an hour or two at mid-day very heavily. In the temperate regions, where local causes strongly affect natural phenomena, the rains are *variable*, but for the greater part they accompany the prevailing winds from the south-west and west.

In India, the rainy season comes with the south-west monsoon, the arrival of which is announced by a great number of clouds arising from the Indian Ocean. After some days, the sky appears agitated

* M. Arago gives the following as the average annual rainfall in the places named: Cape Français (St. Domingo) 121 inches, Calcutta 80, Kendal 61, Pisa 48, Naples and Dover 37, Liverpool and Manchester 33, London and Paris 22 inches.

in the evening, and the monsoon usually commences during the night. It is accompanied by such sounds as would almost terrify the inhabitants of a temperate climate, and violent gusts of wind are succeeded by immense torrents of rain.

Rainless regions, as already said, are found in both hemispheres. In the eastern they extend in a wide belt across the widest part of Africa, eastward by the Isthmus of Suez, and for the most part over the Red Sea and Arabia, and, though not continuously, over Persia and Cabul, terminating in the great desert of Gobi.

In the New World, the rainless belt extends north and south through Chili, Peru, and, with an interruption at the Isthmus of Panama, through California and Mexico. These extensive "*waters*" enter largely into the economy of nature for supplying moisture to the large outlying tracts of land in large continents, as was explained when speaking of the monsoons.

Winds from the ocean, as those striking on the east of continents in the torrid zone, and on the west coast, though with more irregularity, in temperate climates, lose their moisture, which falls as they pass on, and meeting with ranges of mountains have their moisture completely *squeezed* out of them and reach the interior as dry winds. The existence of a rainless district along the seaboard of America on the west is accounted for in this way. The dominant winds are from the east; these winds, charged with moisture, travel over to the west, giving rain to the plains of Brazil, and "*licking* up" a portion of this moisture again, till they come to the snow-capped Andes, where the remaining moisture is condensed amid thunder, lightning, and storm, and falls on these higher altitudes. The winds pass down to the plains to the west of this range *rainless*. The *position* of the Andes thus determines this rainless region.

Climate.—The climate of a place is its prevailing weather or the degree of warmth and moisture usual at that place. We usually distinguish climates by the terms cold, wet, salubrious, equable, extreme, &c.

The prominent causes of differences of climate are the *heat of the sun*, the *proximity of the sea*, *elevation above sea-level*,

the *prevailing winds*, the *position of mountain ranges, currents of the ocean, and in the atmosphere, aspect* and *nature of the soil.*

It may be laid down that the temperature of the earth's surface decreases from the equator towards the poles.

Climate may be *equable* if the changes from heat to cold are gradual; *extreme*, if sudden or great.

The sun being the great distributor of heat, the temperature of any place depends very materially on the amount of exposure to his rays. As long as the sun is above the horizon, a place is receiving heat; but when the sun sets, heat is parted with by radiation.

When the sun, then, is more than twelve hours above the horizon, at any place, heat is accumulating; when below the horizon for more than twelve hours, the reverse takes place.

The sloping position or inclination of the earth's axis gives rise to the sun's apparent movement up and down in the course of a year between the tropics, giving a more general diffusion of his heat, and causing the rainy season to exist wherever he is vertical—a providential arrangement for modifying heat where most powerful, and bringing the necessary change of the seasons.

If the temperature of any place were solely regulated by the sun's heat, the division into zones would sufficiently mark the differences of climate, and latitude would determine the exact climate of all places on the parallel; but the earth's surface being so much broken by hills and valleys, and other circumstances so greatly modify climate, that considerable differences exist in places the same distance from the equator.

Isothermal (*equal heat*) lines have been drawn round the globe to show the average annual temperature, but on these lines an *extreme* climate may correspond with an *equable* one.

The climates of London and Pekin illustrate this forcibly. Their *mean* annual temperature is 51°, while the January temperatures are respectively 37° and 25°, those for July are 64° and 84°; the difference for summer and winter being—for London 27°, for Pekin 59°. One climate, that of London, is equable; the climate of Pekin, on the contrary, is extreme.

Sea-water moderates temperature. Places near large bodies of water have a more equable climate than places in the interior of continents in the same latitudes. Ireland

has a higher winter temperature than any part of Great Britain, with the exception of a very small district in Cornwall. The Atlantic Ocean may be considered a great treasure-house, in which the heat of the summer months, as well as that of the more southern climes brought by the Gulf Stream, is reserved against the rigours of winter.

Water has the greater specific heat, and therefore parts slowly with its heat, while the land radiates its heat freely. This heat-giving power of water, it is to be remembered, takes place whenever water is cooled.

The mean temperature of Ireland in January reaches round Cork and Kerry to 43°; on the eastern and central districts of England to the Thames it is but 37°. Hence, the winter climate of the former district is higher by 5° than that of the east and centre of England, the shallow German Ocean having little influence. Again, London has a winter temperature of nearly eight degrees higher than Vienna, which is three degrees south of it.

To prove further the influence of the ocean in connection with these islands:—The mean temperature of the central inland portion of Ireland during the winter is 39°, or 4° lower than the south-west, and 3° to 2° lower than the west coast line between the same parallels. In England, the whole of the midland and eastern counties averages 37°.

In the summer (July) the reverse takes place. Then the east has a higher temperature than that of the west. This arises from the temperature of the land being higher in summer than that of the water, the former being more easily heated.

Generally speaking, the southern is colder than the northern hemisphere. The circle of ice around the N. pole extends 10°, while that around the S. extends nearly 20°; the enormous icebergs which are detached from the latter are sometimes to be met with in latitude 30° and even 40° S., while the land of Tierra del Fuego has a climate of extreme rigour. South France enjoys a delightful climate, while in the same latitude in the southern hemisphere the climate is extremely cold.

As far as the 44th parallel N. and S. the temperature of both hemispheres is much the same. Another cause of the heat diffused in the northern being more than that of the southern, is that the time between the vernal and autumnal equinoxes (from 21st March to 22nd September) exceeds the time from 22nd September to 21st March by 7 days.*

The isothermal line corresponding to 32°, that is, the freezing point, passes through Labrador about 2° S. of Nain, and touches Ulea in Lapland; while the line of 52° passes Quebec through Christiania in Norway, 3° S. of Upsal, and through St. Petersburg and Moscow.

Elevation is another cause of diversity of climate. A gradual change takes place from warmth to cold as we ascend above the level of the sea, till we reach a point of perpetual congelation: this point when extended round a mountain is called the *snow line*, and varies with the latitude.† The highest elevation which this line reaches is at the tropics, and the explanation why it is there, and not at the equator, is this: the accumulation of heat arising from the longer day—13½ hours—at these lines, is much more than at the central portion of the earth, where the day never exceeds 12 hours; the sun being vertical in both cases.

The snow-line is higher on the side of mountains looking towards the equator than on the opposite side; but on the Himalaya mountains the highest snow-line is northwards, in consequence of the radiation of heat from the elevated plateau of Asia melting the snow to a greater height, than the direct rays of the sun on the south side.

* Some give an additional reason, viz., the immense evaporation in the great southern expanse of ocean.

† The height of the highest mountain is so insignificant when compared with the immense distance of the earth from the sun, that it has no effect whatever on the temperature of the air by which it is surrounded. As we ascend an elevation, the air which, by the diffusion of heat on the surface of the globe at its bottom, was heated, becomes increased in volume, and consequently colder. The effect of the sun's rays in communicating heat is, of course, much greater upon the dense atmosphere at the base of a mountain than on the thin air at its summit.

The snow line, of course, varies with the season of the year: the difference between its greatest and least elevation is called its annual oscillation.

The prevailing winds affect climate. When the winds which prevail in a country sweep over a wide ocean, both cold and heat are tempered, as is the case in Ireland; when winds traverse large tracts of land, they vary from hot to cold according to the nature of the surface. In spring and autumn E. winds blow towards the British Isles for some time. In the spring these winds pass over cold and generally frozen surfaces of land in Russia and central Europe, and are by that means rendered bleak and chilly; but in autumn the same winds bring heat, by passing over the same plains, made dry and warm by a summer's sun.

The position of mountains, as we have seen in the case of the Andes, produces considerable effect on climate.

Italy and the south of Europe are sheltered from the cold blasts of the north by mountain ranges, and this is one of the causes of the warmth of these places.

The nature of the soil also has its influence. Sandy soils become dry and quickly heated, and by radiation affect the temperature of neighbouring countries, as the Sahara affects the climate of places near it.* Clayey soils are bad conductors of heat. *Swamps* and *forests* chill the air: hence the draining of land and felling of trees may raise the winter temperature as it has done in parts of North America; irrigation and the planting of trees may moderate a hot climate and lead to increase of rainfall.

The line of highest temperature—83°—is generally to the north of the equator, and passes through Africa at 11° north lat. The hottest portion of the world is in northern Africa about this parallel.

Aspect.—Siberia, which slopes towards the north pole, being turned away from the sun's rays, is an instance of

* The immense desert of Sahara is as a great furnace, which heats not only the districts around, but also those at some distance. Its influence is materially felt in the southern countries of Europe.

climatic influence through aspect. The coldest portion of the globe is here about 80° N. latitude, and at 95° E. long. It is said to have a mean temperature of 1° Fahr. There is another point in North America about the same parallel, 80°, and 100° W. long., which is said by some to have even a lower temperature. These points are called poles of cold.

Electricity and Magnetism.—When a person rubs a stick of wax on his sleeve, it acquires the power of attracting small bits of paper, feathers, and other light substances. This power is called *Electricity*, and may be produced from glass and other substances. Every substance in nature contains more or less electricity.

A body is said to be positively electrified, when it acquires more electrical action than it possesses naturally; and is said to be negatively electrified, when it possesses less than this quantity.

Bodies oppositely electrified attract each other, and the union of the opposite electricity generally results in the emission of a spark attended by a report.

The lightning's flash and the thunder are the same phenomena on a larger scale. *Voltaic* electricity is produced from the chemical action of various bodies, chiefly metals and acids. Electricity may be transmitted through wires, and is under the control of man to a certain extent. From its wonderful action we have the electric telegraph.

Electricity gives rise to a multitude of natural phenomena—the Aurora Borealis, St. Elmo's Fire, which sometimes plays about the topmast of a ship; and some think that mineral veins, gems, and crystals, are formed by its agency.

The **mariner's compass**, so useful to seamen, is formed of a needle or a small piece of steel magnetized. Its N. end points at Greenwich 24° W. of north. This deviation from the true north is called the *variation* of the needle. These variations occur to the east as well as to the west: in some parts of the world, there is no deviation from the real north.

The needle also dips towards the horizon, and increases in dip till it reaches the perpendicular at a point in 70° N. lat., and 97° W. long. This point is called the *magnetic pole*. The south magnetic pole is in Victoria Land.

The needle is horizontal on a line (irregular) which crosses the equator four times; this is the magnetic equator. These poles, and the form and position of the magnetic equator, are constantly varying.

Distribution of Plants.—Plants are nourished by the air and earth, and require light, heat, and moisture for their health and propagation. Plants vary in character with climate, soil, and elevation. Each plant has also a particular part of the globe where it arrives at the greatest perfection regarded as the centre of its creation.

The *Flora* (*Flos*, a flower) of any country, are the plants of that country spoken of collectively.

There are three great divisions in the vegetable kingdom, Cryptogams, Endogens, and Exogens. There are about 200 natural *families* of plants. Cryptogams are divided into Acrogens and Thallogens.

1. Cryptogamic, or *flowerless*, plants, are those whose fructifications, or mode of producing seed, is imperceptible, or scarcely discernible, such as mosses, lichens, fungi, ferns, algæ (sea-weed), etc. These are likewise called *acotyledonous*, and have no seed-lobe.

2. Endogenous, or monocotyledonous plants, have their growth from within, by the addition of new matter. The first name indicates the mode of growth, the second *one* seed-lobe.

The number 3, or its multiple, prevails in the divisions of the flowers, and the veins of the leaves are parallel. This class has but *one* lobe when springing up. Grass, grain-plants, as wheat, rice, barley, maize, lilies, palms, etc., are examples.

3. Exogenous, or dicotyledonous plants, grow by the addition of matter externally outside the pith, at or near the surface. They have two seed-lobes, and the veins of the leaves form a net-work. The number 5 usually prevails in the divisions of the parts of the flower, and they have two leaves in the first stage of their growth.

The ages of trees of this class can be determined by the rings of yearly growth, one outside the other. The forest trees, and most of the flowering shrubs and herbs, belong to this class.

Some plants are *evergreens*, that is, before the old leaves have fallen off new ones appear: others, *deciduous*, the leaves fall off and they are for a season leafless.

Plants are either *annual*, that is, lasting only one year and

renewed again from seed; *biennial*, that is, sending out leaves and stems the first year and flowers and fruit the following; or *perennial*, lasting many years.

The *exogens* are far more numerous than the *endogens*. In tropical regions they are as four to one, in temperate as six to one, and in frigid as two to one. In the last named regions cryptogamic plants abound.

Baron Von Humboldt divides the globe into eight vegetable zones.

1. *Equatorial*, or region of the palms and bananas, extending about 15° each side of the equator.

2. The *tropical zone*, or region of tree-ferns and figs, from 15° to the tropics.

3. The *sub-tropical zone*, or region of laurels and myrtles, from the tropics to 34°.

4. The *warm temperate zone*, or region of evergreen trees, from 34° to 45°.

5. The *cold temperate zone*, or region of deciduous trees, from 45° to 58°.

6. The *sub-arctic zone*, or region of pines, from 58° to the arctic circle.

7. The *arctic zone*, or region of *andromeda*? and alpine rhododendrons, from the arctic circle to 72°.

8. The polar zone, or region of alpine plants, gentians, ranunculus, etc.; lichens, mosses, from 72° to the utmost limit of vegetation.

Similar changes of vegetation are found in ascending from the base of mountains to their summits; as on the Andes, Peak of Teneriffe, Etna, etc.

Rice supplies food to the greater portion of the human race. It is grown chiefly in tropical countries and in marshy districts.

Barley is the most widely spread of all the corn plants.

Wheat is the chief corn plant of Europe and western Asia.

Rye is the principal grain used for making bread in northern Europe.

Oats is largely grown in Ireland, Scotland, and northern Europe.

Rye and oats are hardier than wheat, but not so much so as barley.

DISTRIBUTION OF ANIMALS.—The animals of any country when taken together are called its *Fauna* (*Faunus*, god of the woods).

Animals, like plants, have their natural habitations, but being possessed of the power of locomotion, these habitations cannot be fixed with a great degree of accuracy.

The animal kingdom has been arranged in five *great* divisions.

1. *Protozoa* are the lowest forms of animal life, including sponges, infusoria, and others in which no nerves or organs of sense have been detected.

2. *Articulata* are jointed animals—insects, crabs, etc.

3. *Mollusca* are soft-bodied animals—snails, etc.

4. *Radiata* are rayed animals—star fishes, etc.

5. *Vertebrata* are animals having a neck, bone, and skeleton—man, beasts, etc.

The articulated animals consist of a body formed of a succession of rings jointed together; such as insects, crustacea.

The molluscous animals are such as the oyster, and the snail, which have a protection by shells; others are without this covering, as the garden *slug*, cuttle fish, etc.

In the radiated animals the organs *radiate* from a ring surrounding the mouth as a common centre; as the coral, sea anemone.

Animal, like the vegetable life, is most varied and most largely developed in the torrid zone.

The vertebrata are subdivided into five classes: 1. Mammals (sucking animals); 2. Birds; 3. Réptiles; 4. Batrachia; 5. Fish.

Some animals, chiefly birds, migrate to procure food and escape extremes of cold and heat; swallows, geese, ducks, swans, go to the south of Europe, in large numbers during our winter; the buffalo on the American prairies also migrates.

Man.—Mankind have been divided into *five* races or *varieties*: the Circassian or Indo-European, the Mongolian, the Malayan, the Negro or Ethiopian, and the American.

The *Circassian* race has an oval face, an extended forehead, hair long, fine, and wavy, head with the upper and anterior portions large. To this race belong the Europeans, except the Lapps, Finns, and Hungarians; the nations north of Africa for the most part; the Asiatics from the south of the Caspian Sea to the Brahmapootra.

The Circassians of Europe are in three sub-families: the *Slavonians* (Russians, Poles, with the inhabitants of parts of Austria and Turkey); the *Teutonic* or *Gothic*, occupying the greater part of the British Isles, Scandinavia, Denmark, Germany, Prussia, Holland, Belgium, Switzerland, and parts of Austria; the *Celtic*, found in the north-west of Scotland, over a large part of Ireland and Wales, and mixed with the descendants of Roman and Gothic tribes over France, Italy, Spain, Portugal, and parts of Switzerland and Belgium.

The *Mongolian* race has high cheek bones, a broad skull, small black eyes obliquely set, wide mouth, thick lips, hair black, lank, and thin, skin olive-coloured. The Asiatics north and east from a line about the south of the Caspian Sea to the Brahmapootra, and the Laplanders, Finns, and Hungarians in Europe, the Greenlanders, Esquimaux, and others in north America, are of this race.

The *Malay* race resembles the Mongolian, being intermediate between that and the negro. The inhabitants of this race occupy the Malay Peninsula and Indian Archipelago.

The *Negro* or *Ethiopian* race is marked by a black skin, black and woolly hair, low forehead slanting back, flat nose, thick lips. It occupies the greater part of Africa south of the Great Desert, Madagascar, Australia, and many of the Polynesian Isles.

The *American* race has a red or copper-coloured skin, generally regular features, a prominent and frequently aquiline nose, high and receding forehead. This race

includes the native tribes of America (now fast disappearing), except the Esquimaux.

Recent writers make but three divisions of the human race, according to the shape of the skull.

1. Caucasian, *oval* or *elliptical* skull; bearded type.
2. Mongols, *pyramidal* skull; beardless type.
3. Negroes, *prognathous* skull (projecting lower jaw); woolly-haired type.

Supposing the number of the inhabitants on the earth to be 1,400 millions, it is computed that 650 millions are of the Mongolian race, 420 millions Caucasians, 290 millions Malays, 1 million American, and the remainder Negro. This, however, is, for the most part, nothing more than conjecture.

TABLE

OF THE

SITUATIONS, TERMINATIONS, AND APPROXIMATE LENGTHS OF THE PRINCIPAL RIVERS IN THE WORLD.

EUROPE.

Name.	*Country.*	*Termination.*	*Length in miles.*
Volga,	Russia,	Caspian Sea,	2200
Danube,	Germany, Austria, Turkey,	Black Sea,	1700
Dnieper,	Russia,	Black Sea,	1200
Don,	Russia,	Sea of Azov,	1100
Rhine,	Switzerland, Germany,	German Ocean,	780
Dniester	Russia,	Black Sea,	550
Elbe,	Germany,	German Ocean,	700
Vistula,	Prussia and Poland,	Baltic Sea,	630
Tagus,	Spain and Portugal,	Atlantic,	510
Rhone,	Switzerland and France,	Mediterranean,	490
Po,	Italy,	Adriatic Sea,	450
Seine,	France,	English Channel,	490
Shannon,	Ireland,	Atlantic Ocean,	220
Severn,	England,	Bristol Channel,	220
Thames,	England,	German Ocean,	210
Tiber,	Italy,	Mediterranean,	215
Forth,	Scotland,	German Ocean,	115
Clyde,	Scotland,	Frith of Clyde,	100

ASIA.

Name.	*Country.*	*Termination.*	*Length in miles.*
Yang-tse-kiang,	China,	Pacific,	3200
Yenesei,	Siberia,	Arctic Ocean,	2900
Hoang-ho,	China,	Pacific,	2600
Obi and Irtish,	Siberia,	Arctic Ocean,	2500
Lena,	Siberia,	Arctic Ocean,	2400
Amoor or Saghalien,	Mongolia,	Channel of Tartary,	2300
Euphrates,	Turkey in Asia,	Persian Gulf,	1700
Indus,	Hindostan,	Indian Ocean,	1700
Ganges,	Hindostan,	Bay of Bengal,	1500
Oxus or Amoo,	Turkestan,	Sea of Aral,	1300
Irrawaddy,	Birmah,	Bay of Bengal,	1200
Ural,	Russia,	Caspian Sea,	1000
Tigris,	Turkey in Asia,	Euphrates,	800

AFRICA.

Nile,	Abyssinia, Nubia, and Egypt,	Mediterranean,	3300
Niger,	Nigritia,	Gulf of Guinea,	2300
Zaire or Congo,	Congo,	Atlantic,	1300
Orange	South Africa,	Atlantic,	1000
Senegal,	West Africa;	Atlantic,	1500
Zambezi,	Mozambique,	Indian Ocean,	2000

AMERICA.

Amazon or Maranon,	Brazil,	Atlantic,	4600
Mississippi,	United States,	Gulf of Mexico,	3200
Do.,	*From source of Missouri,*		4300
Parana and La Plata,	Brazil and La Plata,	Atlantic,	2300
St. Lawrence, (measured through the Lakes.)	Canada,	Gulf of St. Lawrence,	2100
Mackenzie,	British America,	Arctic Ocean,	2400
Orinoco,	Venezuela,	Atlantic Ocean,	1800
Rio del Norte,	Mexico,	Gulf of Mexico,	1400
Ohio,	United States,	Mississippi,	1250
Columbia,	United States,	Pacific,	1000
Hudson,	United States,	Atlantic,	325

PRINCIPAL MOUNTAINS OF THE WORLD WITH THEIR APPROXIMATE HEIGHTS.

EUROPE.

Mountains.	*Situation.*	*Country.*	*Feet above sea level.*
Mont Blanc,	Alps,	Savoy,	15777
Mulhacen,	Sierra Nevada,	Spain,	11387

Mountains.	*Situation.*	*Country*	*Feet above sea level.*
Maladetta,	Pyrenees,	Spain,	11400
*Etna,		Sicily,	10900
Olympus.		Turkey,	9750
Mount Corno,	Apennines,	Italy,	9500
Sneehatten,	Dofrines,	Norway,	8000
Parnassus,		Greece,	8000
*Hecla,		Iceland,	5200
Ben Nevis,	Grampians,	Scotland,	4400
*Vesuvius,		Italy,	3900
Snowdon,		Wales,	3590
Carn Tual,	Magillicuddy's Reeks,	Ireland,	3414
	ASIA.		
Mount Everest,	Himalaya,	Hindostan,	29000
Kunchin-ginga,	Himalaya,	Hindostan,	28200
Elburz,	Caucasus,	Circassia,	18500
Hindoo-Koosh,		Cabul,	20000
Ararat,		Armenia,	17100
Mawna Koa,		Sandwich Islands,	13700
Hermon,	Lebanon,	Palestine,	10000
Sinai,		Arabia,	9300
	AFRICA.		
Jeb-Ahloor,		Eastern Africa,	16500
Mount Hentet,	Atlas Chain,	Morocco ,	15000
*Teneriffe,		Canaries,	12200
Table Mountain,		Cape Colony,	3600
	AMERICA.		
Aconcagua,	Andes,	Chili,	23910
Chimborazo,	Andes,	Ecuador,	21424
*Antisana,	Andes,	Ecuador,	19136
*Cotopaxi,	Andes,	Ecuador,	18875
Mount St. Elias,		North America,	18000
*Popocatepetl,		Mexico,	17700
Mt. St. Helen's,	Rocky Mountains,	United States,	14700
Blue Mountains,		Jamaica,	7300
Mount Washington,	Alleghanies,	United States,	6234

REMARKABLE ELEVATIONS.

EASTERN HEMISPHERE.

	Feet.
Ascent of Messrs. Glaisher and Coxwell, in 1862, . .	37000
Ascent of Gay Lussac from Paris, in 1804, . . .	23000
Greatest height attained on the Himalaya by Dr. Gerard, .	29000
Convent of the Alps, St. Bernard, ...	8200
City of Madrid, ...	2200

* Volcano.

WESTERN HEMISPHERE.

	Feet.
Greatest altitude attained by Humboldt (Andes),	19800
City of Potosi,	13350
Lake Titicaca,	12800
City of Mexico,	7470

LAKES AND THEIR AREAS.

EUROPE.

Name.	*Country.*	*Sq. miles.*
Ladoga,	Russia,	6300
Onega,	Russia,	3280
Wener,	Sweden,	2140
Geneva,	Switzerland,	380
Garda,	Italy,	183
Maggiore,	Italy,	152
Neagh,	Ireland,	150
Lomond,	Scotland,	43
Windermere,	England,	10

ASIA.

Caspian Sea (Salt),	170000
Sea of Aral (Salt),	26000
Baikal,	20000
Urumiah, in Persia (Salt),	1800
Dead Sea (Salt),	360
Sea of Galilee,	76

AFRICA.

Victoria Nyanza,	50000
Tanganyika,	30000
Chad,	15000
Nyassa,	6500

AMERICA.

Name.	*Sq. miles.*	*Name.*	*Sq. miles.*
Superior,	40,000	Great Bear Lake,	10,000
Huron,	30,000	Erie,	10,000
Michigan,	20,000	Athabaska,	3500
Great Slave Lake,	12,000	Titicaca,	3800

*** NOTE :—The areas of the American lakes have been variously estimated.

CLIMATE AND SEASONS.

Name.	*Latitude.*	*Mean Winter Temperature.*	*Mean Summer Temperature.*	*Mean Annual Temperature.*
Edinburgh,	55° 57′	38·5°	58°	47°
London,	51° 30′	39·5°	63°	51°
Dublin,	53° 23′	40°	60°	49°
Paris,	48° 50′	38°	64·5°	51°
Vienna,	48° 12′	32°	69°	51°
St. Petersburgh,	59° 56′	18°	61°	39°
Rome,	41° 53′	44°	75°	59·5°
Moscow,	53° 45′	15° 20′	64°	40°
Geneva,	46° 12′	34°	70°	53°
		ASIA.		
Bagdad,	33° 19′	49·6°	93°	73°
Bombay,	18° 56′	77°	83°	81°
Calcutta,	22° 33′	72°	86°	82°
Canton,	23° 7′	54°	82°	69°
Pekin,	39° 54′	27°	81°	54°
Trincomalee,	8° 33′	77°	84°	80°
Jerusalem,	31° 47′	49·5°	74°	63°
		AFRICA.		
Cairo,	30° 2′	58°	85°	72°
Cape of Good Hope,	34° 11′	58°	74°	66°
Morocco,	31° 37′	59°	80°	68°
Timbuctoo,	16°	68°	83°	79°
		AMERICA.		
Melville Island,	74° 47′	28°	37°	1·2°
Quebec,	46° 49′	14°	68°	41°
New York,	40° 42′	30°	71°	51°
New Orleans,	29° 57′	55°	82°	69°
Rio Janeiro,	22° 54′	68°	79°	73°
Quebec,	46° 48′	14°	68°	42°
Philadelphia,	39° 57′	30°	71°	51°
Hobart Town,	42° 53′	42°	63°	52°
Sydney,	33° 51′	74°	55°	66°
Melbourne,	37° 58′	67°	48°	59°

Before introducing a map the teacher should carefully and clearly explain to the learners the four points of the compass, and should tell them that N. stands for north, N.W. for north-west, &c., &c.

EUROPE.

EUROPE, situated almost wholly within the N. temperate zone, extends from Cape Nordkyn in Norway to Cape Matapan in Greece, 2,400 miles; and from Cape St. Vincent in Portugal to the mouth of the Kara River in the N.E., 3,400 miles. Irrespective of islands, it lies between the parallels of 36° 1′ and 71° 6′ N. latitude, and between the meridians of 9½ W. and 68½ E. longitude. Its population is about 288 millions of inhabitants. It is bounded on the N. by the Arctic Ocean; on the S. by the Mediterranean Sea, the Sea of Marmora, the Black Sea, Sea of Azof, and the Caucasian Mountains; on the E. by Asia, from which it is separated by the Ural Mountains, Ural River, and Caspian Sea.—Area, 3,776,000 square miles.

TABULAR VIEW OF THE EUROPEAN STATES.

States.		Area.	Population.	Capital.
British Isles (*k.*),	1876	122,000	33,450,108	London. *
France (*r.*),	1876	203,850	36,250,000	Paris.
Spain (*r.*),	1870	182,760	16,552,000	Madrid.
Portugal (*k.*),	1874	36,510	4,293,000	Lisbon.
Italy (*k.*),	1875	112,500	27,500,000	Rome.
Greece (*k.*),	1870	19,950	1,457,500	Athens.
Turkey (*e.*),		229,000	15,000,000	Constantinople.
Austria (*e.*),	1876	227,235	37,723,000	Vienna.
Germany (*e.*),	1875	243,000	43,000,000	Berlin.
Belgium (*k.*),	1874	11,315	5,336,000	Brussels.
Holland (*k*),	1875	10,900	3,812,650	Amsterdam.
Denmark (*k*),	1876	14,500	1,903,000	Copenhagen.
Sweden and Norway (*k*),	1875	291,900	6,200,000	Stockholm.
Russia (*e*),	1870	2,043,400	71,745,500	St. Petersburgh.
Switzerland (*r*),	1870	15,235	2,669,000	Berne.

(*k.*) Kingdom, (*r.*) Republic, (*e.*) Empire.

For an account of Andorra, see page 259. *San Marino,*

* The following is a very recent estimate of populations:—London, 3,489,752 (1876); Paris, 1,851,792; New York with Brooklyn, 1,535,622; Berlin, 1,045,000; Canton, 1,000,000, &c.

in the Apennines, with an area of 24 square miles and a population of 7,080. Several small states in the centre of Germany, though enjoying a nominal independence, are virtually subordinate to the will of the empire.

Surface.—Generally speaking Europe is mountainous and hilly in the N.W., the centre, and the S., and flat everywhere else. The *Great Plain*, occupying an area of about 2½ millions of square miles, extends from the Ural Mountains on the E. to the Baltic, Black Sea, and including Belgium and Holland, and N. Germany, reaches across the N. of France almost to the Atlantic. "In this vast tract there are infertile sandy wastes, heaths, bogs, and marshes, primeval forests haunted by wild animals, pastures on which enormous numbers of cattle are reared, richly cultivated corn-bearing districts, and lands inhabited by nations of the highest degree of intelligence, while others are held by rude nomadic tribes."* The following smaller plains may also be enumerated: there are three plains, watered by the Danube—that of Bavaria on the Upper, the greater and less Hungarian plains on the Middle, and that of Wallachia and Bulgaria on the Lower Danube. The *Plain of Lombardy*, traversed by the Po, is 250 miles long, and about 50 broad, and is exceedingly productive. The great plain divides the European mountain system into two parts, the Scandinavian system N. of it, and the Alpine system S. of it.

Seas.—The principal seas of Europe are: the White Sea, N. of Russia, the Baltic, North Sea, Mediterranean, Archipelago, Marmora, Black Sea, Sea of Azof, the Irish Sea, the Skager Rack, and Cattegat.

The White Sea extends from 64½° to 68½° N. latitude, has an entrance 100 miles wide, penetratesdeeply into the N. of Russia, and terminates in two large gulfs, that of Dwina and Onega. A third gulf, Kandalaska, runs westward. The water is deep, but fogs prevail, and the ice lasts about 8 months every year.

The Baltic, with an area of 160,000 square miles, is about 900 miles

* Bohn's Geography.

long and 150 broad; shallow on the S. As it receives ⅓ of the drainage of Europe, and an immense quantity of water from the melted snow near its shores, its waters are very little salt. Its harbours in the winter months are shut up by ice; its tide is insignificant, only rising 1 foot at Copenhagen, and rendering its harbours on S. very shallow.

The **North Sea or German Ocean**, connected with the Baltic by the Skager Rack, has an area of 140,000 square miles, and is 680 miles long and 400 broad. Immense quantities of sand drifted down by the rivers form shallow banks, which, with its foggy climate, render navigation difficult. The Dogger Bank, the best known of these, is a good fishing station, in the centre running 300 miles, with a width of 60 miles; and, indeed, everywhere abundance of fish is found.

The **Mediterranean**, on the S. of Europe, occupies with its branches 1 million of square miles; an extent from Gibraltar to Syria of 2,000 miles; but from Sicily to Africa of only 80 miles. The winds are very variable, and the gales and water spouts frequent. This sea is very deep; tide only rises from 5 to 7 feet; but its currents are strong, one constantly flowing from the Atlantic. Notwithstanding this circumstance, and its receiving so many large rivers, evaporation is capable of carrying off all its surplus waters. It is pretty certain also, that an under current enters the Atlantic.

Archipelago, called by the ancient Greeks and Romans the Ægean Sea, is studded with islands, which render navigation difficult, particularly in the winter. The water is very deep, from 150 to 200 fathoms within a mile of the shore. A current runs into it from the Dardanelles.

Black Sea, with an area of 180,000 miles, is more salt than the Baltic, almost free from islands, water deep, navigation good, storms, though violent, usually of short duration; and it parts with its surplus waters, brought to it by many rivers, by the Strait of Constantinople.

The Sea of Azof or Azov, a close sea, united to the above by a narrow strait 10 miles long, is 200 miles long, with a varying breadth; has an area of 14,000 square miles, and a depth of only 5 to 8 fathoms. Its waters are sometimes brackish, when the wind propels some of the water of the Black Sea into it, but never salt.

The Irish Sea, lying between England, Ireland, and Scotland, is connected with the Atlantic by the N. Channel and St. George's Channel; 130 miles is the greatest, and 60 the least width.

Islands.—The chief are: Nova Zembla, Spitzbergen, and Vaigatz, N. of Russia; the Loffoden Isles, N.W. of Norway; Zealand, Funen, Langland, Aland, Oland, and Gothland in the Baltic; Iceland, the Faröe, and British

Isles in the Atlantic. The Balearic Islands, Sardinia, Corsica, Elba, and Malta in the Mediterranean. The Ionian Isles, W. of Greece, Negropont, and many others on the E. of Greece.

Peninsulas.—The chief *peninsulas* are: Norway and Sweden, Jutland, Spain and Portugal, Italy, the Morea, and the Crimea.

Isthmuses.—The principal are: the Isthmus of Corinth in Greece, and Perekop in S. Russia.

Capes.—The chief capes are: The *N. Cape* on the Isle of Mageröe, *Nordkyn* in Finland, the *Naze* S. of Norway, the *Skaw* N. of Denmark, Cape *Wrath* N. of Scotland, the *Land's End* in S.W. of England, *Malin Head* N. of Ireland, Cape *La Hogue* N. of France, *Ortegal* and *Finisterre* in the N.W. of Spain, Cape *St. Vincent* in Portugal, *Trafalgar* and *Palos* in Spain, *Passaro* in Sicily, *Spartivento* and *Otranto* in Italy, *Matapan* and *Angelo* in Greece.

Gulfs.—The Gulf of Venice, Genoa, Lyons, Taranto, Squillace, and Lepanto, in the Mediterranean; and the Gulf of Bothnia, Finland, and Riga, in the Baltic.

Bay.—The Bay of Biscay on the W. of France is the only one of importance.

Straits.—The *Sound* between Sweden and the island of Zealand, the *Great Belt* between this isle and that of Funen, the *Little Belt* between Funen and Denmark proper; *Dover*, between the North Sea and English Channel; Gibraltar, South of Spain; *Bonifacio*, *Messina*, *Otranto*, *Dardanelles*, *Bosphorus*, and *Yenikale*, in the Mediterranean and its branches.

Mountains.—The principal mountains are: the *Alps* in Italy, Switzerland, France, and S. Germany; the *Apennines*, which run down Italy; the *Pyrenees*, separating France from Spain; the *Balkan* Mountains in Turkey; the *Carpathian* Mountains in Austria; the *Erz* and *Sudetic* in Central Germany; the *Dofrine* or *Dofrefeld* Mountains, between Norway and Sweden; the *Ural* Mountains E. and the *Caucasian* Mountains S. of Russia.

The Alps may be said to commence at the Gulf of Genoa, and presenting a concave line towards Italy, form many groups and off-shoots in Switzerland and the Tyrol; and are conveniently arranged under six different names. They lie between 44° and 48° N. latitude, and between 6° 40′ and 18° E. longitude, covering an area of about 90,000 square miles, and, generally speaking, slope much more on the northern than on the southern side. 1. The *Maritime*, running from the gulf just named into the S.E. of France, and after about 100 miles, terminating in Mount Viso, one of the most splendid mountains in the group. 2. The *Cottian*, running from Mount Viso (13,599 feet) to Mount Cénis (about 60 miles), which is now crossed by a railway. 3. The *Graian Alps*, separating Savoy from Piedmont, running about 60 miles, and including Mount Cénis (11,455 feet), over which, in 1803, Napoleon I. commenced the well-known carriage road. 4. The *Pennine*, running about 60 miles from Mont Blanc to the Simplon, between Lombardy and the Rhone, and including the three loftiest peaks in Europe, Mont Blanc, 15,777 feet high, Monte Rosa, 15,206, and Mont Cervin, 14,836 feet. 5. The *Helvetian* or *Lepontian*, running from the Simplon to Mount St. Gothard, a distance of some 60 miles. Among the rivers rising in St. Gothard are the Rhine, the Rhone, and the Reuss. 6. The *Rhætian*, running E. from this mountain about 80 miles, and crossed by several passes. In addition, the *Bernese*, between the Rhone and the Aar. Among the chains that run E. are the *Noric* between the Danube and Drave, the *Carnic* between the Drave and the Save, and the *Julian* and *Dinaric* between this river and the Adriatic.

Vegetation.—At the foot of Mont Blanc, the mean annual temperature is 53° while at 6,695 feet it is at freezing point. Of course on the south side, directly opposite to the sun's rays, plants are found at a greater elevation than similar ones on the north side. For a height of 1,900 feet on the south slope to 2,500 on the north, the vine, maize, and chestnut abound. Beech and oak extend to 4,000 feet on the north, to 4,300 on the south, and other trees reach from 6,000 to 7,000 feet. Mountain pastures reach from 5,000 to 8,000 feet, where dairy farming is carried on. Of course these elevations vary considerably with the position and shape of the mountain. Eagles, hawks, owls, wolves, bears, lynxes, and wild cats are found among the lofty peaks. Precious stones and most minerals are found in the district of the Alps.

Passes of the Alps.—The following are the most important passes of the Alps:—

	Feet.
1. The Great St. Bernard, from Lower Valais to Piedmont,	8,183
2. The Matterhorn, from Zermatt, over Cervin, to Piedmont,	11,000
3. The Simplon, over this mountain from Upper Valais to Lombardy,	6,592

4. The St. Gothard, from Altorf to Bellinzona, on the Ticino, 7,000
5. The Splugen, from the Grisons to Lombardy, - - 6,939
6. The Gemmi, over the Bernese Alps, - - - 7,594
7. The Grimsel, over same chain, - - - - 7,126
8. Stelvio, the highest carriage-way in Europe, connects Italy and Tyrol, - - - - - 9,700

The **Apennines** may be considered as a continuation of the Alps, taking their origin due north of Genoa, and extending through the entire length of Italy, their summits covered with smooth rounded, bare rocks, until they terminate after a course of 650 miles, at Cape Leuca. Their highest peaks include *Il Gran Sasso d'Italia*, 9,590 feet; Monte *Corno*, 9,521; *Vetora*, 8,135, all the greater part of the year being covered with snow; and the vegetation being very similar to that of the Alps.

The **Pyrenees**, between France and Spain, extend 270 miles, with a breadth from 30 to 60 miles, a gradual slope towards the former, but steep and precipitous towards the latter. Their highest elevation is *Maladetta*. Though some of the summits towards the east extend into perpetual snow, the glaciers are few and small, and all on the north side. There are many passes, but only five for carriages.

The **Balkan** or **Hæmus**, forming the southern boundary of the basin of the Danube, are properly a continuation of the Dinaric Alps, and terminate in Cape Emineh on the Black Sea, after throwing out several spurs into Servia and Bulgaria, and rising in the west to 9,700 feet. Craggy tops and steep and well-wooded slopes distinguish this range. It is crossed by six passes, the three most important of which are defended by the fortresses Shumla and Sophia, where the mountain is of least elevation. The connection between this range and the Carpathian, at a gorge in the Danube, is called the Iron Gate.

The **Carpathian Mountains**, separated from the Sudetic range by the valley of the March, and from the Balkan mountains by the valley of the Danube, run 800 miles from Presburg in a semicircular course to Orsova, both on the Danube. The lower parts of this range are nicely wooded. Their highest peak is Ruska Poyano, rising 9,912 feet.

The **Erz mountains**, abounding in mineral riches, separate Saxony from Bohemia, and throw out spurs in different directions. The mountain slopes, which are more gradual towards the north and abrupt towards the south, are well-wooded, and in many places present picturesque scenery.

The chain of mountains running from N. Cape down the Scandinavian peninsula, extends about 920 miles, is called in the centre *Dovre-feld*, which contains the highest peak, Snæ Hatten, 8,102 feet; in the north, *Koelin*, not so elevated; and in the south, the *Thulian*, generally increasing in elevation northward. On the top of the latter are many flats or table-lands—a remarkable feature.

The **Ural** extend from the sea of Kara, latitude 70°, to the middle of the Ural river, latitude 50° north, being 1,330 miles in length,

varying in breadth from 16 to 65 miles. In the north they rise only 3,000 feet, and divide the basin of the Obi from that of the Petchora. In the middle, where the mineral riches abound, are the highest elevations. In the south, two chains run east of the river Ural and become lost in the deserts north of the Caspian, a third takes the west bank of the river. Gold is found on both slopes; platinum, copper, iron, coal, and precious stones are also found; mining forming an important industry.

The Caucasus, running from the Black to the Caspian Sea, about 750 miles, consists in the central and higher part of parallel ranges connected by plateaux, traversed by deep fissures. Near the centre is Elburz, 18,495 feet high, and Kasbeck, about 16,545 feet. Here the snow-line touches the south side, 10,000 feet high, and the north side 11,000 feet. Some parts are well wooded, particularly the low ranges near the Black Sea, where bears, wolves, and jackalls are found. Grain is produced on the slopes, and tobacco, cotton, and indigo at the base. Vines grow on the south, where there is a beautiful climate. The pass of *Nachar* is 9,617 feet high.

Table-lands.—The only real plateau in Europe is in central Spain, extending over 100,000 square miles, and varying from 2,000 to 3,000 feet in height.

Rivers.—Generally the rivers of Europe either flow towards the S.E. or N.W. The principal rivers are: The *Ural* and *Volga* flowing into the Caspian Sea, the *Don* into the Sea of Azof, the *Dnieper*, *Dniester*, and *Danube*, into the Black Sea; the *Adige* and *Po* into the Gulf of Venice; the *Tiber*, *Rhone* and *Ebro*, into the Mediterranean; the *Tagus* into the Atlantic; the *Garonne* and *Loire* into the Bay of Biscay; the *Seine* into the English Channel; the *Rhine*, *Weser*, and *Elbe* into the North Sea; the *Oder*, *Vistula*, *Memel*, and *Duna* into the Baltic; the *Onega* and *N. Dwina* into the White Sea; the *Thames*, *Shannon*, and *Clyde* in the British Isles.

The Ural rises in the southern section of the Ural mountains, flows south over hilly meadows, bends at the town of Orsk, to the west, and afterwards runs nearly south to the Caspian Sea, after a course of 550 miles. Sandbanks render it unnavigable, but its fisheries are very important. The towns on this river are Orenburg and Uralsk.

The Volga, which rises at the base of the Valdai Hills, one of the great watersheds of the Russian Empire (the other being the Ural range), flows for a considerable distance in a north-easterly direction,

when it turns towards the south and receives the *Oka*, a river running in an easterly direction, through central Russia, S. of Moscow, with a very winding course; farther south it is joined by the *Kama*, a very considerable river, which rises in the Ural Mountains, and is frozen for at least five months in winter. The Volga continues its southward course, and, forming a delta, discharges by several mouths into the Caspian Sea. In the upper part of its course it drains a fertile and productive country; but in the latter part it passes through the district of the "steppes," which in some places are barren, but in others are fertile and productive. This river opens up the centre of the great Russian Empire to commerce, and by its numerous tributaries tends to the development of trade. Ice in winter obstructs the navigation four months, but intercourse is effectually carried on by sledges, which proceed at great velocity over the frozen highway. Towards the mouth of the river "sturgeon fisheries" afford a remunerative employment; and the centre of this is Astrakhan, which is also the chief river port. The towns on its banks are:—Tver, Yaroslav, Costroma, Nijni Novgorod, Kasan, Samara, Saratov, and Astrakhan.

The **Don**, which rises near Toula, in the great central plain, flows south, and is joined by the *Verona* (a considerable river) and some smaller ones. It then makes a circuit, approaching close to the Volga, with which it is connected by canal; but suddenly turning towards the south-west pursues almost a direct course to the Sea of Azof. The basin of this river is one of the chief grain districts of Russia; and the surplus stock, which is large, is exported from Taganrog and adjacent ports. There are also valuable sturgeon fisheries near the river's mouth; but the chief trade of the district is in grain. A large quantity of mud and sand is carried down by the stream, which greatly obstructs navigation. The most important tributary is the *Donetz*. The towns on its banks are Toula, Tcherkask, Taganrog, Rostov, and Azov.

The **Dnieper**, rising in swampy forests near Smolensk, runs south to Kiev, turns south-east, and again sweeps to the south-west, and enters the Black Sea by a noble estuary, after a course of 1,200 miles, at Kherson, which is its chief port. At first its course is sluggish, but afterwards it flows over rocks, several rapids being formed, which for 100 miles below Kiev interrupt navigation. Sturgeon, pike, and other fish are plentiful. By means of a canal this river is connected with the *Dwina*. The most important tributaries are the *Pripet*, *Beresina*, and *Desna*. The towns on its banks are Kherson, Ekaterinoslav, Kiev, and Mohilev.

The **Dniester**, rising in a small lake on the slope of the Carpathian mountains in Galicia, is navigable to Haliez, has a rapid current, receives numerous tributaries on both sides; and after passing Mohilev

Dubossari, and Bender, enters the Black Sea after a course of 550 miles. Immense quantities of grain are brought down the stream, which has some falls and whirlpools that interrupt navigation.

The **Danube**, the second largest river in Europe, rises in the mountain-land of Baden, and shortly after it leaves the country of its birth is augmented by the *Inn*, when it flows through Upper and Lower Austria, Hungary, and Turkey, and falls into the Black Sea by many mouths. It receives in its course through Hungary, the *March*, the *Waag*, the *Gran*, the *Theiss*, which latter river receives also three tributaries—viz., Samos, Koros, and Maros. The Danube also receives the *Drave*, *Save*, *Morava* on the south side, and the *Aluta*, *Sereth*, and *Pruth*, on the north. This river drains a vast tract of country, and bears on its sluggish bosom the productions of the states through which it passes. Speaking roughly, one-third of the river is in Austro-Hungary, one-third in Turkey, and one-third before it enters the former country. It establishes a thorough communication, though a free passage is interrupted at the Iron Gates. Between Linz and Vienna it passes through a mountain defile; between Presburgh and Pesth it flows a sluggish stream between hills 1,000 feet high; further on the great plain on the left expands, and on the right are low bluffs and promontories. The towns on its banks are, Ulm, Ratisbon, Linz, Vienna, Presburg, Buda-Pesth, Peterwardein, Belgrade, Semendria, Widdin, Rustchuk, Silistria, Galatz, and Ismail. Its free navigation was secured by the treaty of Paris, 1856, and a short canal avoids the rapids near the Iron Gate.

The **Adige**, rising in the Rhætian Alps, flows east into the Tyrol, turning south passes Botzen, Trent, and Verona, and enters the Adriatic south of Venice. It is very rapid and subject to inundations. It is 250 miles long, and navigable to Trent.

The **Po**, rising in Monte Viso, close to the French frontier, flows east for about 20 miles, when it enters the plain, passes Turin, Pavia, Piacenza, and Cremona, and within about 50 miles of the sea, begins to form its delta. It drains an area of 40,000 square miles, is 450 miles long, and enters the Adriatic by several mouths.

The **Tiber**, rising in a wood of beech trees in the Tuscan Apennines, runs to a great extent in a zigzag course 215 miles; passing Perugia, and Rome, enters the sea at Ostia by means of two mouths. It is subject to overflowings, being fed by mountain streams.

The **Rhone**, rising under an ice-field in Switzerland, within 4 miles of the source of the Rhine, at an elevation of 5,806 feet, runs rapidly through the Canton of Valais, passes Leuk, and Martigny, bends to the N.W., enters L. Geneva in a clear stream. Leaving the L. it strikes against the Jura mountains, flows to Lyons, where its rapid current is joined by the *Saone*, a gently-flowing stream, flows S., passes

Vienne, Valence, Avignon, Beaucaire, and Arles, carrying with it immense quantities of earth, and enters the sea by two arms. The *Saone* is connected by canals with the Rhine, Seine, Loire, and the Bay of Biscay. Its remaining tributaries are the *Ain*, *Doubes*, *Gard*, *Isère*, and *Durance*. The Rhone is exceedingly rapid.

The Ebro, rising in the province of Santander in Spain, flows S.E. for 25 miles, turns E., passes Frias, Miranda, Tudela, Saragossa, Tortosa, and enters the Mediterranean, after a course of 350 miles.

The Tagus, the principal river of Spain, rises in the Sierra Toledo, and some branches of it in the Santellanos mountains; it waters the district lying between these two ranges, and discharges into the Atlantic at the Rock of Lisbon. The country on each side of this river is fertile; and on its banks grow the orange and citron trees, the olive and the mulberry; but the country, although so favoured by nature, is not prosperous, owing to the indolence of the people, the ravages of civil war, and the incompetency of the government. The Tagus is navigable for a considerable distance, and forms a sort of estuary at the mouth so deep and spacious that fleets of any size can ride in it with safety. It is a favourite station for our navy, and a place of refit for our mercantile marine. On its banks are Lisbon, Abrantes, Talavera, and Toledo.

The Garonne, rising near Mount Maladetta in the Pyrenees, becomes navigable at Cazères, passes Toulouse, turns N.W., passes Verdun, and being joined by the Dordogne, now under the name of Gironde, enters the Bay of Biscay 60 miles below Bordeaux. The basin of this river extends from the Pyrenees to the Cévennes. A bore is sometimes felt in it 40 or 50 miles from the sea.

The Loire, rising in the Cévennes, about 4,500 feet above sea-level, forms a great outlet for the products of western and central France. It is 600 miles long, of which 500 are navigable; and has a basin 50,000 square miles. Nantes, Angers, Tours, and Orleans are on it.

The Seine rises in the Plateau of Langres, and flows in a north-westerly direction through the wine-producing district of Champagne. It receives the *Yonne*, *Marne*, and some smaller rivers, and after passing Paris, Versailles, Elbeuf, and Rouen, flows into the English Channel. Its course is serpentine throughout, but this feature is particularly remarkable between Paris and the sea. It expands at the mouth into an estuary, and forms a fine harbour for vessels of the largest tonnage. Havre is the river port, but large ships can proceed to Rouen, whence merchandise is taken, either by small steamer or by train, to Paris.

The Rhine, although not the largest, is the most attractive of European rivers. It rises in Mount St. Gothard at a height of 7,700 feet, and after passing through L. Constance forms the beautiful and celebrated Falls of Schaffhausen. It now serves as the boun-

dary between Switzerland and Baden, and at Basle takes a northerly direction, when (now becoming wholly a German river) for a considerable distance it is the boundary between Baden and Alsace. After flowing through the fertile and wine-producing valley of Rhenish Prussia, it enters Holland, and discharges into the North Sea after a course of 780 miles. The Rhine receives on its western side the *Meuse*, *Moselle*, and *Aar*; and on the eastern the *Necker* and *Main*. From the earliest ages this river has been celebrated for the variety of its scenery, and for the wealth and magnificence of its cities. The scenery of its upper course is romantic and bold; mountain, waterfall, and cataract, toned down in some spots by the softer touches of Nature's hand, lend their enchantment to the view, and form a whole such as is not surpassed in any portion of the European continent. The lower course of the Rhine, especially through Holland, is sluggish and uninteresting; and the country is preserved from inundation by artificial dykes, which sometimes burst, to the detriment of the surrounding valleys. The Rhine is navigable for a considerable distance, and its chief outlet is Rotterdam, though not on the main stream. The towns on its banks are, Chur, Constance, Schaffhausen, Bâle, Strasburg, Spires, Mannheim, Worms, Mainz, Coblentz, Cologne, Düsseldorf (a very important river port), Wesel, Cleves, Arnhem, Utrecht, and Leyden.

The **Weser** is formed by the junction, on the frontiers of Hanover, of the *Werra* and *Fulda*, the former rising in central Germany about 50½° N. latitude, and the latter in Bavaria. The Weser passes through Hanover with a winding course—the towns on its banks being Munden, Carlshaven, Minden, Bremen, and Bremer-hafen; and its most important tributary is the *Aller*, which receives the *Ocker* and *Leine*. Its length is about 250 miles.

The **Elbe** rises in the Riesen mountains on the N.E. border of Bohemia, drains a basin of 58,800 square miles, and has an average depth of 10 feet. On leaving Bohemia, where it receives the Moldau, it is 350 feet wide. It passes in Saxony, Pirna, Dresden, and Meissen, enters Prussia, passes Möhlberg, Torgau, Wittenberg, Magdeburg, Hamburg, and Cuxhaven, where it enters the sea in an estuary 10 miles wide. Its navigation is now very active, and steam-boats ply between the large towns. The tributaries on the west are the *Moldau*, *Mulde*, and the *Saale;* on the east the *Elster* and the *Havel*.

The **Oder** rises in Moravia, passes Breslau, Glogau, and Frankfort, and enters the Baltic at Stettin, after a sluggish course.

The **Vistula**, rising in the Carpathian Mountains, near the Jablunka pass, flows N., passes Cracow, runs N.E. into Poland, varies its direction, passes Warsaw, enters Prussia, passes Thorn, and before entering the sea divides into two parts—the smaller, called the *Nogat*,

flows into the Frische-haff by twenty mouths, near Elbing. The main stream or western branch also separates into two parts, one falling into the Frische-haff, the other entering the Baltic, near Dantzic. The river is navigable for barges to Cracow; and corn and timber from the interior are conveyed to the Baltic. This river flows through a very level country; scarcely a hill or even a knoll, to be seen; nothing to obstruct the view but the distant horizon. Timber covers a great portion of the country through which it passes, and this, along with grain, also a production of the district, is exported in large quantities from Dantzic and Elbing, the river ports. Amber, a fossil resin, is also found near its mouth and on the adjacent shores of the Baltic. The *Bug* is its most important tributary.

The **Niemen** or **Memel** rises in the W. of Russia, passes Grodno, Tilsit, and enters the Baltic near Memel. Very destructive inundations occur in this river, which flows through a good timber district.

The **Duna** or **Dwina** rising near the source of the Volga, passes Disna, Drissa, Dunaburg, and Riga, and falls into the Gulf of Riga: owing to sand-banks its navigation is difficult; many rafts of timber are floated down the stream. The Berezina canal connects it with the Dnieper, thus completing the water communication between the Black and Baltic seas.

The **Onega**, rising in Lake Latcha, runs nearly parallel with the N. Dwina, falls into the White Sea at the town of Onega.

The **N. Dwina**, formed of two streams, the *Suchona*, 300 miles, and the *Jug*, 200 miles long, has a basin of 124,000 square miles, and enters the White Sea after a course of 700 miles. It is a splendid fish river. The **Mezen** and **Petchora** are unimportant.

Lakes.—The principal Lakes are:—*Geneva*, *Lucerne*, *Neuchâtel*, and *Constance* in Switzerland; Lakes *Maggiore*, *Garda*, *Como*, and *Lugano* in Italy; Lakes *Neusiedler-see* and *Platten-see* in Austria; Lakes *Wener*, *Wettern*, and *Malar* in Sweden; Lakes *Ladoga*, *Onega*, *Piepus*, *Enara*, *Saima*, and *Ilmen* in Russia; *Windermere*, in England; *Neagh*, in Ireland.

Geneva, area 382 square miles, 1,230 feet above sea-level, depth 980 feet, lies in the form of a crescent in the south-west of Switzerland, has a breadth of from 3 to 12 miles, and an extreme length of 54 miles. It is surrounded by the most sublime scenery, being shut in by lofty mountains on all sides.

Lucerne, a large basin of water 25 miles long, and 9 broad, with a varying depth from 800 to 900 feet, is also surrounded by magnificent scenery, and is traversed by steam-boats.

Neuchâtel, area 90 square miles, depth from 400 to 500 feet, is 1,420 feet above sea level, lies on the west side of Switzerland.

Constance, area 228 square miles, depth 965 feet (but average depth 320 feet), is 1,250 feet above sea level, partly in Switzerland and partly in Baden. Its waters sometimes rise several feet in an hour. Water-fowl and fish are plentiful.

Maggiore, area 150 square miles, is the deepest lake in Europe (2,000 feet), 675 feet above sea level, 42 miles long, only 8 miles broad. Its centre has a group of beautiful islands, and abounds with fish; climate cool, and in summer much subject to thunderstorms.

Garda, area 183 square miles, 320 feet above sea level, 600 feet deep, is 30 miles long, breadth from 11 miles in the south to 3 in the north. Fish of great variety abound; and in summer the melting of the snow raises the surface waters 3 or 4 feet.

Como, area 66 square miles, 685 feet above sea level, is 40 miles long, and 1,800 feet deep.

Lugano, area, 800 square miles, partly in Switzerland, is about 20 miles long and one broad, 500 feet deep; is surrounded by rugged scenery; and empties its surplus waters into Maggiore.

Neusiedler See, with an area of 120 square miles, is 23 miles long and 7 miles wide. It is now dried up.

Platten See, area 420 square miles, is very shallow, only from 30 to 40 feet deep, it is 48 miles long, and from 3 to 10 wide, with slightly brackish water; called also *Balaton* lake.

Wener, area 2,140 square miles, depth 280 feet, is the third largest European lake, is 112 miles long and 15 to 30 broad, and discharges its waters by the River Gota. Fish are abundant.

Wettern, area 840 square miles, 300 feet above sea level, is connected with the former by a canal, but sends its surplus waters into the Baltic. It is 70 miles long, 13 wide, and 370 feet deep. Several small islands are in it.

Malar, area 760 square miles, is very irregular in shape, and crowded by numerous islands. It is 70 miles long.

Ladoga, the largest lake in Europe, has an area of 6,300 square miles, is 120 miles long, and 70 miles wide at its widest part. Its shores are low, and its extreme depth 900 feet.

Onega, area 3,280 square miles, is 120 miles long, with an average width of 40 miles, with many rocky islets along the shores. Its waters are brought to Lake Ladoga by the River Swir, which is 120 miles long.

Peipus, area 1,230 square miles, is 90 miles long.

Enara, area 1,000 square miles, discharges its waters into the Arctic Ocean.

Saima, area 2,000 square miles, is 180 miles long and 22 wide, and abounds with islands.

Ilmen, area 390 square miles, is 100 feet above sea level.

Climate.—The climate of Europe, generally speaking, is not so extreme as that of the other continents, at the same time the E. of Europe is subject to great extremes of heat and cold. The temperature of the east of America in some places is 10° colder than in same latitude on W. side of Europe. Europe may be divided into three climatic zones: (1) The *Northern*, lying N. of the parallel of 55°, in which the winter lasts nearly nine months, summer the remainder, with a few days of spring and autumn between: the winter, severe and boisterous; in the summer the heat is great, and vegetation rapid. (2) The *Central*, from 45° to 55°, has the four seasons distinctly marked with a gradual passage from one to the other, winter longer than summer, and from W. to E. its intensity increases. (3) The *Southern*, S. of the parallel of 45°, has very little snow, long droughts, and great heat in summer.

The rainfall decreases towards the E. On the coast of Portugal the annual fall is more than 100 inches, and only 15 in the E. of Russia. The most rainy part of Europe is Coimbra, where more than 200 inches is the average annual rainfall. In the S. the rain generally falls in winter; in the W. and N.W. in autumn; in the E. and central countries in the summer.

Inhabitants.—With the exception of a few tribes at the extreme N., and the Magyars of Hungary, all the inhabitants of Europe belong to the Caucasian race. In reference to their language this race is divided into three great branches: those whose languages are in a great measure derived from the Latin, such as the French, Spanish, Italian, and Portuguese; secondly, the Teutonic, which includes most of the British Isles, Norway, Sweden, Denmark, the Netherlands, and Germany; thirdly, the Slavonian race, represented by the dialects of Russia, Poland, much of Austria, and some provinces in Turkey. The population is densest in Belgium, England, and Holland.

Religion.—The principal creeds of Europe are three—Roman Catholic in the S.W.; Greek Church in the E.; and Protestant in the middle and N. The countries in which very little mixture is found are, Spain, Portugal, and Italy, being almost exclusively Roman Catholic; Norway and Sweden and England almost exclusively Protestant; Russia contains about 8 millions Roman Catholics, 4 millions Protestants, and 2½ millions Mahommedans, 1½ million Jews, and 1 million Armenians. All the remaining countries are mixed.

Education.—Europe contains many splendid universities, several existing in each of the most important countries. Prussia, where attendance at school is compulsory, is the best educated country. Great improvements have lately been made in many of the states of Europe in regard to education, among which may be named the admirable system now in use in England and Wales. The excellent system of education in operation in Ireland has been one of the most successful; and the open competitive examination system has incontestably proved that the peasant class in Ireland is much more capable of passing a severe literary examination than the corresponding class in England or Scotland.

Industries.—The prevailing industry in most countries of Europe is of course agriculture, chiefly consisting in tillage, cattle-rearing, dairy-farming. *Mining* forms an important industry in Great Britain, Belgium, E. France, Hungary, and Sweden. *Manufactures* of coarse woollens for home use are carried on in all countries; linens in France, the Low Countries, British Isles, Hanover, and Moravia; *iron* goods in the British Isles and Belgium; *cordage* and *sailcloth* in all large seaports; *beer* in most countries, but particularly in Bavaria, British Isles, and the city of Strasburg; *grain* is largely exported from the countries bordering on the S. of the Baltic and from S. Russia; *olive oil* from N. Italy; *wine* forms an important industry in France and Spain; *dried fruits* in Greece, Spain, and Portugal, and other places.

Animals.—The progress of civilization and the increase of population have rendered many species of animals, which were once numerous, to be at present extinct. The *horse* was fleetest and best in Spain, having been introduced by the Arabs; but the breed has degenerated. The heaviest horses are found on the shores of the North Sea, and Holland and Switzerland also have splendid draft horses. Corsica has the smallest horses, the N. of Sweden the largest, England the nicest and swiftest. The *mule* is used in hilly countries, particularly Spain; and the *ass*, though much used in Ireland and many other countries, is biggest in Spain and Malta. The *sheep*, of which there are many varieties, is everywhere. The *goat* is in mountainous districts; the *hog* is used extensively for food, except in Turkey; the *reindeer* is found in Lapland; the *dog* is everywhere.

Of Wild Animals, two species of bear are found; the brown bear of the mountains of Southern Europe, and the polar bear of N. Europe. The lynx and wolf, wild cat, fox, and otter are also found in many countries. Of the *rodentia* we have beavers, squirrels, marmots, rats, and mice. Monkeys are found wild on the rock of Gibraltar.

Fish.—Every variety, including whales and seals, is found in the European seas.

Birds.—Of these more than 400 species are permanent residents, and many more occasional visitants. In the N. waders and swimmers are most plentiful. Though European birds have not the brilliant plumage of those of Asia and Africa, yet they greatly excel them in their melodies. The nightingale, the best songster in the world, is plentiful in Europe.

Minerals.—Very little gold, silver, or precious stones exist in Europe, but abundance of iron, coal, and other useful metals is found. *Iron* is found in the British Isles, Belgium, France, Russia, Germany, Sweden, Italy, Spain, and Austria. *Coal* is found in the three first-named countries, also in Hungary, Sweden, and Germany. *Quicksilver* is found in S. W. of Austria, in Spain, and in Bavaria. *Copper* is found in British Isles, Russia, Hungary, Sweden, and Norway, Turkey, Germany, and Spain. *Lead* is found in Spain, British Isles, Austria, France, and Norway; *tin* in England, Saxony, and Spain; *zinc* in Great Britain, Belgium, and Germany. *Salt* is found in Russia, Austria, France, Spain, Portugal, British Isles, Italy, Greece, and Sweden. England produces ten times as much coal as both Belgium and France, the next most productive countries.

Vegetables.—The vegetation of Europe has been almost sufficiently described. In the south the vegetation resembles that of Africa, producing the vine, the date, the prickly pear, castor oil plant, rice, cotton, sugar cane, maize, fig, olive, and orange. Almost all these either disappear or are only found in a languishing state at about the parallel of 43°; then comes the vine, which more northward is followed by wheat and other grain, the hardy trees, such as oak and birch, with rich grazing pastures, which are almost unknown in southern Europe. In the extreme N. vegetation ceases, and the ground is covered with perpetual congelation.

THE UNITED KINGDOM

OR

GREAT BRITAIN AND IRELAND.

THE UNITED KINGDOM consists of Great Britain, Ireland, and the numerous islands around the coast, being separated from the Continent of Europe by the North Sea and British Channel. The distance from Dover to Cape *Griznez* on the opposite coast of France is only 20 miles; from the coast of Norfolk to Holland about 90 miles; and from Peterhead to the *Naze* in Norway about 300 miles. The most northerly point is one of the Shetland Isles, latitude 60° 49′; the most southerly, the Scilly Isles, latitude 49° 53′, the most easterly, Lowestoft Ness, in Suffolk, longitude 1° 46′ E.; the most westerly, one of the Blasquet Isles off the coast of Kerry, 10½° west.

These islands constitute by far the most commercial, most enterprising, most wealthy, and most civilized empire in the world. Our flag floats in every sea, bearing to the most distant lands the productions of our "sons of toil," and returning with the bounteous products with which nature has crowned more sunny climes. The surrounding seas give us not only security from a foreign enemy, but moderate our climate, afford an important source of industry to many of those who live near the coast in supplying fish to the great towns, and form a great highway, so necessary for an eminently commercial nation. Owing to our climate being mild, our soil fertile and productive, our harbours commodious and spacious, our rivers navigable, our canals and railways numerous and admirably constructed, we have a country especially suited for the habitation of an enterprising, and, above all, a commercial people. Our minerals

are superior to those of any other country; abundance of coal* and iron, tin and lead, silver and copper, is found.

The industrial occupations of the people of the British Isles are more varied and valuable than those of any other European state.

Agriculture is the prevailing industry. It is computed four-fifths of England is arable land, three-fourths of Ireland and Wales, and one-third of Scotland.

Every year we largely import bread stuffs from America, South Russia, North Germany, and other places.

Of our three great *manufactures*, cotton, wool, and iron, we import the raw material of the first two:—cotton from the United States, Egypt, India, and Brazil; wool from Australia, Cape Colony, Spain, Germany. Most of our iron is obtained from the great seats, Merthyr Tydvil, Wolverhampton, Rotherham, and the "Cleveland district."

As to the system of representative government under which we live, its superiority is only fully apparent when contrasted with countries governed on autocratic principles. The machinery of our government is self-regulative; the pressure of public opinion through the legitimate channels, a free press, and freedom of speech at public meetings, precluding the risk of political plots being hatched on an extensive scale in this country.

There is a tendency of the population to constant shifting, and gradually to become concentrated in those districts where manufacturing, mining, or mercantile industries, are most actively carried on. Agricultural industry does not tend so much to increase the population in particular districts; but where any two or more of the above-mentioned industries flourish in a particular district, an extraordinary increase of population takes place. Thus, while, during the last ten years, many towns in agricultural districts have remained stationary in population, and some even have retrograded, we find towns in the coal and iron districts with

* Coal constitutes our most important mineral wealth, affording an inexhaustible supply of fuel, and steam-power without limit.

an enormous increase: some have even doubled the population of 1861. With an increase of one industry there must inevitably be a corresponding increase in one or more others. Thus, nothing has conduced so much to stimulate and increase our commerce as the enormous growth of our manufactures.

The population of the British Isles in 1871 is given below; the area is about 122,000 square miles.

United Kingdom.	Population, 1871	Area in Acres.
England, - -	21,487,688	32,590,397
Wales, - -	1,216,420	4,734,486
Scotland, - -	3,358,613	19,638,377
Ireland, - -	5,402,759	20,322,641
Isle of Man, -	53,867	180,000
Channel Isles, -	90,563	46,684
Army, Navy, & Seamen Abroad,	207,198	
Total, -	31,817,108	77,512,585

The Census Commissioners state there is an increase of 705 persons daily; and as the Census was taken on 2nd April, 1871, it is easy, on this reliable basis, to tell, with sufficient accuracy, the population at any date within the next few years. We have followed in the arrangement of the counties very nearly that adopted by the Census Commissioners.

ENGLAND AND WALES.

England and Wales together are often called South Britain. They differ materially in their physical features; the former being rather flat, and the latter mountainous and hilly. In consequence of England being more rich in minerals it has much larger towns than Wales; in the latter, from its industry being almost exclusively agricultural, only small towns are found, the only exception being in the county

of Glamorgan, which, in its coal and iron works, successfully rivals similar industrial districts in England.

This country is bounded on the N. by the river Tweed, Cheviot hills, and Solway Frith; on the E. by the North Sea; on the S. by the English Channel; and W. by the Irish Sea and St. George's Channel.

The most eastern point of England is Lowestoft Ness, longitude 1° 46′ E.; the most southern is the Lizard, latitude 49° 58′; the most western point, is Land's End, longitude 5° 45′ W., the most northern point is a little north of Berwick, latitude 55° 50′ N.

Capes and Headlands.—On the E. *Flamborough* and *Spurn* heads, *Lowestoftness*, the *Naze*, *Foulness*, *Shoeburyness*, North and South *Foreland*. On the S., *Dungeness*, *Beachy* head, *Selsea* Bill, the *Needles*, *St. Alban's* head, *Portland* Bill, *Start* point, *Lizard* head, *Land's End*. On the W., *Hartland* point, the *Foreland* (in Devon), *Worms* head, *St. David's* head, *Braichy-Pwll*, *Great Ormes* head, and *St. Bee's* head.

Bays and Harbours.—On the E., *Bridlington* bay, *mouth of the Humber*, the *Wash*, and *mouth of the Thames*. On the S., *Rye* bay, *Spithead*, *Southampton* water, the *Solent*, *Poole*, *Lyme*, and *Tor* bays, *Plymouth* sound, *Falmouth* and *Mounts* bays. On the W., *St. Ives*, *Barnstaple*, *Bridgwater*, *Swansea* and *Carmarthen* bays, *Milford* haven, *St. Bride's*, *Cardigan*, *Carnarvon*, *Holyhead*, and *Beaumaris* bays, mouths of the *Dee*, *Mersey*, and *Ribble*, *Morecambe* bay, and the *Solway Frith*.

Islands.—On the E. are *Coquet*, *Holy*, and *Farne* Islands, E. of Northumberland; *Foulness* and *Sheerness* isles at the mouth of the Thames; the *Isle of Wight* and *Channel Isles*, in the English Channel; on the W. are the *Scilly Isles*, *Lundy*, *Ramsey*, *Bardsey*, *Holy Island*, *Anglesea*, *Walney*, and the *Isle of Man*.

The following table gives the counties of England and Wales, with the area, population, and capital town of each:—

ENGLAND.—FORTY COUNTIES.

FOUR NORTHERN COUNTIES.

County.	Area in acres.	Population.	Capital.
1 Northumberland,	1,249,299	386,959	Newcastle on the Tyne.
2 Cumberland,	1,001,273	220,245	Carlisle on the Eden.
3 Durham,	622,476	685,045	Durham on the Wear.
4 Westmoreland,	485,432	65,005	Appleby on the Eden.
5 Yorkshire,	3,830,567	2,436,113	York on the Ouse.

NORTH-WESTERN COUNTIES.

6 Lancashire,	1,219,221	2,818,904	Lancaster on the Lune.
7 Cheshire,	707,078	561,131	Chester on the Dee.

EASTERN COUNTIES.

8 Norfolk,	1,354,301	438,511	Norwich on the Wensum.
9 Suffolk,	947,681	348,479	Ipswich on the Orwell.
10 Essex,	1,060,549	466,427	Chelmsford on the Chelmer

SOUTH-EASTERN COUNTIES.

11 Surrey,	478,792	1,090,270	Guildford on the Wey.
12 Kent,	1,039,419	847,507	Maidstone on the Medway.
13 Sussex,	936,911	417,407	Lewes on South Ouse.
14 Hampshire,	1,070,216	543,837	Winchester on the Itchen.
15 Berkshire,	451,210	196,445	Reading on the Kennet.

SOUTH-WESTERN COUNTIES.

16 Wiltshire,	865,092	257,202	Salisbury on the Avon.
17 Dorsetshire,	632,025	195,544	Dorchester on the Frome.
18 Devon,	1,657,180	600,814	Exeter on the Exe.
19 Cornwall,	873,600	362,098	Bodmin on the Camel.
20 Somerset,	1,047,220	463,412	Taunton on the Tone.

WESTERN COUNTIES.

21 Gloucester,	805,102	534,320	Gloucester on the Severn.
22 Monmouth,	368,399	195,391	Monmouth on the Wye.
23 Hereford,	534,823	125,364	Hereford on the Wye.
24 Shropshire,	826,055	248,064	Shrewsbury on the Severn.

WEST-MIDLAND COUNTIES.

25 Stafford,	728,468	857,333	Stafford on the Sow.
26 Worcester,	472,165	338,848	Worcester on the Severn.
27 Warwick,	563,946	633,902	Warwick on the Avon.

NORTH-MIDLAND COUNTIES.

28 Leicester,	514,164	268,764	Leicester on the Soar.
29 Lincoln,	1,775,457	436,163	Lincoln on the Witham.
30 Rutland,	95,805	22,070	Oakham on Chatmoss.
31 Nottingham,	526,076	319,956	Nottingham on the Trent.
32 Derby,	658,803	380,538	Derby on the Derwent.

SOUTH-MIDLAND COUNTIES.

	County.	Area in acres.	Population.	Capital.
33	Hertford,	391,141	192,725	Hertford on the Lea.
34	Buckingham,	466,932	175,870	Aylesbury.
35	Oxford,	472,717	177,956	Oxford on the Isis.
36	Northampton,	630,358	243,896	Northampton on the Nen.
37	Huntingdon,	229,544	63,672	Huntingdon on Great Ouse.
38	Bedford,	295,582	146,256	Bedford on the Great Ouse.
39	Cambridge,	525,182	186,363	Cambridge on the Cam.
40	Middlesex,	180,136	2,538,882	London on the Thames.

NORTH WALES.

1	Flint,	184,905	76,245	Mold on the Alyn
2	Denbigh,	386,052	104,266	Denbigh on the Clwyd.
3	Carnarvon,	370,273	106,122	Carnarvon on the Menai Strait.
4	Anglesea,	193,453	50,919	Beaumaris on the Menai Strait.
5	Merioneth,	385,291	47,369	Dolgelly on the May.
6	Montgomery,	483,323	67,789	Montgomery on the Severn.

SOUTH WALES.

7	Cardigan,	443,387	73,488	Cardigan on the Teify.
8	Pembroke,	401,691	91,936	Pembroke on Milford Haven.
9	Carmarthen,	606,331	416,944	Carmarthen on the Towey.
10	Glamorgan,	547,494	396,010	Cardiff on the Taff.
11	Brecknock,	460,158	59,904	Brecon on the Usk.
12	Radnor,	272,128	25,428	Presteign on the Lug.

Isle of Man,	180,000	53,867	Castletown on south coast.
Channel Isles,	46,684	90,563	St. Heliers.

Northumberland,* the most northern English county, extends from a little N. of the Tweed to the Tyne, is bordered on the N. and W. by mountains, the slope of the Cheviots forming good pasturage for sheep, but the Pennine range towards the W. abounding in many large dreary moorlands. It has the most celebrated coal-field in the world, giving direct employment to 60,000 persons; stretching from 25 miles N. of the Tyne into Durham, and penetrating under

* The land north of the Humber, called in the Saxon Heptarchy, Northumbria, and extended from the Humber to the Forth. In describing a county, four things are to be accurately given: (1) its boundaries; (2) its physical features, which will include drainage, surface, climate, etc.; (3) the chief industrial occupations of the people; (4) its chief towns. Every learner being supposed to have a map before him, we consider it unnecessary to give the boundaries.

the ocean to an unknown extent. It is drained by the *Tyne*, *Alne*, *Till*, *Wansbeck*, and *Coquet*. On the S. and E., where excellent farming is carried on, the county is partly flat. Lead, iron, and zinc, are also found in abundance.

Newcastle-on-Tyne, about ten miles from the mouth of the river, ranks fifth as an English commercial city, has extensive manufactures of glass, mechanical implements. It has much ship building, and exports coals largely, sail cloth, machinery, etc. A statue of Earl Grey, and a bronze statue of George Stephenson, are the principal monuments. Besides its manufacturing character, Newcastle has a large cattle, corn, butter, and provision market, and a grammar school.

Tynemouth (22,000) and *Shields* are its ports; the former is very much used for sea-bathing.

Shields (North and South), with a rapidly increasing population, is noted for the manufacture of alkali, glass, wood and iron shipbuilding, ships' anchors and cables, etc. The two towns form the great outlet for the products of the extensive coal-fields in the neighbourhood.

Berwick-on-Tweed (13,000), well-known in border warfare, was, by the Reform Act of 1835, made "a county of itself to all intents and purposes," except in being represented in Parliament as a county; and politically belongs to Northumberland, but ecclesiastically to Durham. It has an active trade in salmon-taking, packing in ice and exporting to London.

Morpeth (4,510), on the Wansbeck, is the largest cattle market in the N. of England.

Alnwick (6,000), on the Alne, has a splendid castle, the residence of the Duke of Northumberland. Here, in 1093, Malcolm, king of the Scots, was killed, and in 1174 another king of Scots, William the Lion, was made prisoner.

Allenheads, in the S. W., is the centre of the important lead mining district of Allendale.

Cumberland, with a rugged and mountainous surface and a moist climate, is well-known for the beauty of its lake and mountain scenery; its excellent green crops, its lead and coal mines, and its stock-breeding are much esteemed. It is rich in limestone, and some silver and copper are found. *Skiddaw*, rising above Derwent-water to 3,022 feet, is covered on the sides with grass. *Scafell* and many other peaks rise in the same district to about the same elevation. The *Eden* and *Derwent* drain this county.

Carlisle (31,000) (*Eden*), an episcopal city, once walled and entered by three gates, is the junction of the English and Scotch railway systems. The people are principally occupied in mining, and in cotton and hardware manufacture. It is 300 m. from London, and was taken by Prince Charles, 1745, by Prince Rupert in 1645, having surrendered, after a memorable siege of eight months, to the Parliamentarians in 1644. There is a good live-stock market. Its cathedral, on an eminence, contains the remains of Paley.

Cockermouth (7,057) (*Derwent*), with a good grain market, has trade in hats, leather, and thread. It is the birth-place of Wordsworth.

Longtown (19,748) (*Esk*), is a fast improving place, near the Scotch border.

Penrith* (8,600), an ancient town, lies in a picturesque valley, amidst striking scenery, and remains of ancient edifices; has some manufactures of woollens and cotton goods of a fancy kind.

Keswick (2,610) (*Derwent*), much frequented by tourists, is noted for the manufacture of black lead pencils.

Whitehaven (18,842) (*Irish Sea*), is a handsome, well-built town, owing its importance to the collieries and rich iron mines in the neighbourhood. It has ship-building, rope-making, thread, and sail-cloth manufactories, with timber trade and extensive coal-exporting.

Wigton (3,400), and Workington (8,000), the former a manufacturing, the latter a seaport town, are fast improving places. Silloth (*Solway Frith*) serves as the port of Carlisle. Alston (6,000), is much engaged in mining, smelting, and weaving. Maryport (7,450) (*Irish Sea*) exports coal largely.

Durham is a good agricultural county, well known for the breeding of dairy cows. The coal-field runs along the coast nearly the whole length; coal and iron mining and exporting constitute great industrial pursuits. On the W. there are mountain and moorland, with a rather light soil. The *Tyne* and *Derwent* form the northern, the *Tees* the southern boundary, and the *Wear* traverses it somewhat centrally.

Durham (14,406) (*Wear*), in the centre of a coal-field, has manufactures of worsted stuffs, rugs, canvas, sail-cloth, mats, glass, and earthenware. It is the seat of a university, has an old castle, and a cathedral in which were buried the remains of the Venerable Bede.

Sunderland (98,000) (*Wear*), an active port, has glass manufactories, very extensive ship-building and coal exporting.

Gateshead (48,000) (*Tyne*), properly a suburb of Newcastle, combines exports of grinding stones with a large coal trade.

* This town is built of red stone; hence its name.

Darlington (27,730) (*Skerne*), makes linens, woollens, etc.; is a railway centre, and an important iron and coal mart. Stockton (17,500) (*Tees*), makes sail-cloth, has iron and brass foundries, ship-building, and a large corn and flour market. The first railway was opened from this town to Darlington, 27th Sept., 1825. Hartlepool (13,000) (*N. Sea*), has trade in shipping coals and iron ore; it has large docks which cover 138 acres, and good public buildings. Hartlepool West (13,164) is a modern town one mile distant, with an active trade in a great variety of articles. South Shields (45,000), already referred to, has ship-building, glass, and alum works, and exports of coal. Consett (6,000), has trade in coal and iron. Jarrow (18,000) has coal-mining and ship-building. Bishop-Auckland (8,700) (*Wear*), has trade in iron, coal, and cotton. The palace of the Bishop of Durham was erected here in the 13th century.

Westmoreland is very mountainous, its eastern side being traversed by the *Pennine*, and the W. and centre by the *Cumbrian Range*, which contains many slate rocks; its soil is barren on the hills, but fertile in the valleys. There are extensive moors, and the climate is very humid. It is drained by the *Eden*, the *Kent*, and the *Lune*.

Kendal (13,400) (*Kent*), has manufactures of woollen cloths, carpets, stockings, cottons for sailors' jackets, linseys, fishing-hooks, and leather. There are also several mills, dye, marble, and paper works in the immediate neighbourhood.

Appleby (1,680) (*Eden*), the smallest county capital in England, has an old castle, and published the first provincial newspaper. Its castle was bravely defended by Lady Pembroke in the Civil Wars of Charles I. Milnthorpe (1,433), the only port, can receive small vessels at high tide. It has some good schools. Brough has cotton, Kirby, blanket, and Lonsdale, carpet factories.

Yorkshire, the largest county in the United Kingdom, has an irregular form. A line, from Spurn Head to the junction of the counties of Westmoreland and Durham on the north-west, is 125 miles; and a line from the extreme south point at the junction of Derby and Nottingham to Todd Point, at the mouth of the Tees, in a direction nearly due north, is 92 miles: its circumference is about 400 miles, of which 120 are coast line. Above 3,000,000 acres are arable, pasture, and meadow. The remainder

barren and sterile wastes, woods, and wild moorlands It is in the archiepiscopal province of York. The grand civil divisions of Yorkshire are into three *Ridings,** West, East, North, and independent of which was until lately the ainsty of York. The immense population of this county generally exhibit habits of great industry; and the varieties of the occupations pursued by them render it a very interesting and a most important portion of the United Kingdom.

The WEST RIDING (*cap. Leeds*) forms in the S. one immense manufacturing district, swarming with large factories, comprising important seats of the various woollen, cotton, linen, iron, hardware, and cutlery manufactures, as well as extensive quarries, and mines of freestone, limestone, coal, iron, copper, and lead. It is west of the *Ouse*, and is intersected by canals and railways in every direction. Near the *Ouse* the land is very fertile, being principally an alluvial formation.

The EAST RIDING (*cap. Beverley*) has three distinct districts, viz., the *Wolds*, an assemblage of chalk hills extending from the Humber to the Derwent, and ranging eastward to the coast, where they form the lofty promontory of Flamborough Head. The ascent of these hills is steep, except on their eastern side, but their height seldom exceeds 600 feet. Further S. is *Holderness*, marshy towards the Humber, and varied towards the E., where is *Hornsea Mere*.† The third division, called the "Levels," is flat and level, but of considerable fertility. Along the coast there are good fisheries; but tillage and grazing are the chief industrial occupations. Here also are produced the splendid hams so well known everywhere.

The NORTH RIDING (*cap. York*), diversified by hills and flats, has bold and rocky cliffs, rising a little S. of Whitby to 590 feet. The eastern moorland is wild and mountainous, bleak and dreary, but in many places fertile. The vale of

* The term *Riding* is a corruption of the Anglo-Saxon name, *Trithing* or *Triding*, and this division is generally attributed to the Saxons.

† It occupies 436 acres, is the largest lake in the county, and teems with fine fish.

York, running S. from the Tees to the S. of the county, is exceedingly fertile. The western moorlands are also in this riding. There are fertile pastures and good grain crops; marble, jet, alum, and lead are found. The rivers will be described in a separate chapter.

York,* (45,358). (*Ouse*), is associated for electoral purposes with the North Riding. It is the see of one of the two English archbishops, and stands in a flat situation with a circumference of 26 miles, consisting of an old wall entered by ten gates, four of which remain, and is nearly midway between London and Edinburgh. Its wall is the most complete in the kingdom. It has many attractive reminiscences of its great antiquity, such as remains of Roman towers, and early British churches. Its cathedral, of a cruciform shape, is classed amongst the most magnificent in the world. A monastery, some traces of which still remain, was completed here in the time of Rufus. The city is supplied with good educational institutions, such as preparatory schools, and training schools for teachers; but its trade, once important, is now confined to a little glass-making, leather gloves, and comb-making, and the manufacture of railway carriages. Around York the cultivation of mustard is a remunerative industry. It is prepared in the mills of York, and sold as "Durham Mustard." In 1069 it was besieged by the Conqueror. This city was a favourite residence of the Roman emperors. It has annual races.

Hull† (121,600) (*Humber*), the chief port of the county, and the fourth in England, stands at the mouth of a river of same name. Steamers ply to Scotland, Hamburg, the Netherlands, and more particularly to the Baltic, and North Germany, exporting great quantities of manufactured goods to, and importing the productions of, Northern Europe. Its trade is principally in iron, timber, cheese, flax, oil cake, and woollen goods. It also imports immense quantities of grain. Henry VII. frequently resided here. Its manufactures are those of a great port—sail-cloth, cables, etc. It has a nautical and a grammar school.

Leeds (259,200) (*Aire*), is the seat of the manufacture of woollen cloth and tweeds. It has also linen, iron, and machine-making, glass, bricks, leather, and earthenware manufactures, and numerous splendid public buildings, statues of many important persons, including those of the Queen and Wellington. It has a magnificent town-hall, nume-

* Originally a town of the Brigantes, a people of Celtic origin, mentioned by Tacitus as the most numerous of the tribes of Britain; was made a Roman station A.D. 79. Here Constantine the Great was born, and here the emperors Severus and Constantius Chlorus died.

† Founded by Edward I., and called by him Kingstown; afterwards contracted to Kingston; was walled in A.D. 1322.

rous mills for fulling cloth, forges, and collieries in its vicinity. But in the old part of the town the streets are narrow, crooked, and not very clean. There are also large cloth halls in which the woollen goods are exposed for sale at the markets. It has also an important cattle market, and a grammar school.

Sheffield, famed for its cutlery from a remote period, is picturesquely built on several hills, near the confluence of the Sheaf and Don, the latter being navigable to the town: it is well built, though of dim appearance, being enveloped in smoke from the chimneys of its factories; it possesses many fine public buildings—the Town Hall, Cutlers' Hall, Assay Office, Grammar School, and Wesley College. Its manufactures consist of an endless variety of articles in brass, iron, and steel; knives, scythes, files, silver and plated ware; Britannia metal and German silver goods; all articles of use in husbandry; electro-plating in gold and silver; armour plating for ships; and so on. Coals and iron ore abound in the neighbourhood; and trade is energetically carried on by means of numbers of railways and canals. Cheese, corn, and fruit, form also important industries.

Bradford, a well-built town, with many fine public buildings, is the great centre for manufacture of alpaca-wool, stuffs, silks, and merinos; and also for worsted-spinning. It has a great wool market.

Halifax, a well-built and opulent town, on the Calder, with a splendid town-hall, produces the finest kinds of stuff goods, such as shalloons, serges, etc.; as well as many kinds of worsted fabrics. It is a complete hive of industry. It has the largest carpet works in the world; produces cotton fabrics in abundance; and ranks next to Leeds and Bradford as a seat of the woollen and worsted trade.

Middlesborough (39,585), a river port on the Tees, of recent date, has great exports of coal; has extensive iron manufactures, bottle, delft-ware, and glass making.

Howden (2376) (*Ouse*), is celebrated for its horse fair, said to be one of the largest in the world.

Ripon (6805) (*Ure*), is a cathedral city, with a grammar school, and trade in varnish and saddlery.

Huddersfield (70,000) (*Colne*), has manufactures of flannels and blankets, and narrow cloths, shawls, doeskins, and serges of a fancy kind. Its streets are admirably laid out.

Skipton (6000) (*Aire*), has cotton spinning.

Saddleworth (18,631), produces excellent kerseymeres and broadcloths.

Wakefield (23,300) (*Calder*), with immense corn warehouses, has also great wool and cattle fairs, and very skilful dyers. In a battle here, 1460, Margaret of Anjou defeated the Yorkists.

Barnsley (23,000) (*Dearne*) is a prosperous town, extensively engaged in iron and coal trade. It has also linen manufactures, chiefly damasks, draperies, and ticks.

Rotherham (25,000) (*Don*), has numerous manufactures, including a cannon foundry, bridge works, and machinery.

Doncaster (18,758) (*Don*), has been noted for horse races since 1703. It is an important railway centre, and has the works of the Great Northern line. Its grain and cattle markets are very good

Batley (21,000) (*Nidd*), is engaged in manufacturing tweeds, blankets, carpets, and cloth.

Dewsbury (24,773) (*Calder*), is a thriving town of the woollen trade, which produces blankets, rugs, carpets, and druggets.

Keighley (20,000) (*Aire*), has trade in cotton, worsted, and machinery.

Gorton (21,616), is principally engaged in cotton spinning and hat making.

Bingley (5238) (*Aire*), has manufactures of worsted and cotton.

Beverley (10,000) (*Derwent*), has trade in iron, coal, and leather.

Goole (8707) (*Ouse*), a fast rising river port, has excellent docks.

Malton (8168) (*Derwent*), has good trade and excellent cattle markets.

Knaresborough (5205) (*Nidd*), has trade in linen and grain.

Selby (6200) (*Ouse*) is engaged in boat-building and flax-spinning.

Saltaire (5000) (*Aire*), so named from its founder, Mr. Salt, is a well-known manufacturing town of recent date.

Harrowgate (7000) (*Nidd*), is noted for mineral waters, consisting of twenty-five springs of various kinds.

Scarborough (24,000) (*North Sea*), is on a spacious bay, and though much engaged in corn, provision, and timber trade, yet is best known for sea-bathing and mineral waters.

Bridlington (6200), with some interesting ruins, is also a resort for sea-bathing.

Whitby (13,000) (*North Sea*) is surrounded by high cliffs. It has a little coasting trade, alum mines, and jet manufacture. Near is the birth-place of Captain Cooke.

Filey (1831) and Redcar (3400) are also coast towns.

Lancashire, remarkable for the variety of its industrial pursuits, lies on the Irish Sea, and has immense beds of coal towards the S. Morecambe Bay runs into it towards the N.,

and separates the county into two parts, that to the N. being called *Furness*. In the S. are the great cotton manufactures. Good crops of oats and potatoes are produced. It is drained by the *Mersey, Lune, Ribble,* and *Douglas*.

Lancaster (17,248), (*Lune*), 230 miles by rail from London, is a neat well-built town of great antiquity. A considerable number of small ships are built, and it carries on a large trade in coal and limestone, and has manufactures of furniture, cotton, silk, linen, and sail-cloth. It has an old castle of historical note.

Liverpool, the second port in the realm, stands on the Mersey, about four miles from its mouth, its docks running along the river's bank for 9 miles; it is on a hilly foundation. It is the great emporium of the American and Irish trade, has great commercial importance, and constant traffic with all parts of the world. Many of its streets are narrow; but the suburban residences, principally of the merchants, exhibit great beauty and elegance. Its public buildings—Brown's Library, St. George's Hall, Lime-street Railway Station, etc.—are excellent. Besides its manufactures as a shipping port, it has iron foundries, manufactures of watches and jewellery on an extensive scale. It is pre-eminently the cotton port, importing the raw material, and exporting the manufactured articles.

Manchester, on the Irwell, on an eminence, is an opulent and immense manufacturing city, crowded with ware-houses, factories, and shops, adorned with handsome public buildings, and surrounded by numerous elegant villas. It was celebrated, two centuries ago, for its manufacture of woollen cloths, to which it has successively added mixed stuffs, hats, tapes, lace, linen, silk, cotton, and other articles, has become the centre of the cotton trade, the emporium at which are collected all the products of the neighboring towns, and they are sent to London, Liverpool, Hull, and other places for home as well as foreign consumption. It has three large parks, many fine public buildings, warehouses, factories, and cotton stores resembling palaces near the centre of the town, with many splendid streets, parades, and squares, towards the outskirts. Its commerce is greatly aided by the many railways which connect it with other industrial seats; in addition to the cotton trade it has calico printing, manufacture of steam-engines and machinery, and various branches of industry subsidiary to them.

Salford, connected with Manchester by five bridges, though a separate borough, may be considered as part of the same city.

Prescot (6,000) has a few cotton and flax mills, and makes files and watches. Leigh (33,600), a fast rising town, is much engaged in wool and cotton trade.

Bolton (92,800) (*Irwell*), the birth-place of Crompton, who invented the mule-jenny, is an important cotton seat. It has also trade in silk, coal, &c. The Earl of Derby was beheaded here 1651.

Oldham (82,600), a cotton seat, is extensively engaged in the manufacture of hats, calicoes, and fustians.

Blackburn (76,337) (*Burn*), besides being largely engaged in the cotton trade, has great industry in coals, print-works, and paper mills. It is the birth-place of Hargreaves, who, after years of toil, invented the spinning-jenny, which not only enriched himself, but served to cheapen all cotton fabrics.

Preston (85,400) (*Ribble*) is the birth-place of Arkwright, the inventor of the spinning-frame, and is still a cotton seat. Here the Pretender and his adherents were defeated 1715.

St. Helen's (45,200) stands in the midst of collieries, and is noted for plate-glass, bottle, and copper factories.

Wigan (39,000) (*Douglas*) is much engaged in coal and iron trade, cotton, linen, brass, paper, and chemical factories.

Bury (41,500) produces woollens and cottons.

Rochdale (44,500) (*Roche*) stands in a beautiful valley. It is one of the most important of the woollen seats.

Burnley (41,608) is a prosperous woollen and cotton manufacturing town. It also has iron and brass foundries, tanneries, and rope walks.

Ashton-under-Lyne (32,000) (*Tame*), a thriving coal-mining and manufacturing town, produces hats, ginghams, and silks.

Warrington (32,000) (*Mersey*) is engaged in iron and copper works, paper and sail-cloth factories, with small hardwares.

Staleybridge (21,000), besides cotton factories has fire-bricks.

Southport (18,000) and Blackpool (6100) are much frequented watering-places.

Bacup (17,200), has manufactories of cotton and baize.

Middleton (14,517) is engaged in cotton and silk factories.

Accrington (22,000), to cotton-spinning adds bleaching, printing, and mining industries.

Colne (7335) is engaged in somewhat similar industries.

Eccles (7000) has trade in coal, iron, silk, and cotton.

Farnworth (13,550) has cotton-spinning and coal-mining.

Barrow (18,000) has great commercial intercourse. It is engaged in brick-making, and has flax, jute, and steel works. Fleetwood (14,400), extensive timber trade. The former has iron and steel works, and the latter, a town of very recent date, contains a school of musketry.

Ulverston (7000) is a focus of trade for Furness, and parts of West Cumberland, from which it is separated by the estuaries of Morcambe Bay on one hand, and Duddon Sands on the other. It lies in an extensive agricultural and mining district.

Chorley (17,000) has manufactures of calicoes, muslins, and fancy goods. It has a grammar school. Clitheroe (*Ribble*) is a small town.

Cheshire, nearly a perfect level, except on the E., where some elevations occur, has a soil admirably suited for pasture: excellent cheese is produced in abundance; and rock-salt exported to many countries from the mines about Nantwich, but more particularly to the United States and India; the S. Lancashire coal-field enters on the N.E.; copper and lead are found in small quantities. It contains Delamere forest, and several heaths. The peninsula between the estuaries of the Dee and Mersey, its boundary rivers, is called *Wirral*. It is drained by the *Weaver*, which flows through its centre.

Chester (35,701) (*Dee*), 185 miles N.W. of London, is remarkable for a peculiarity of construction not seen in other towns. The houses are excavated from the rock to the depth of one storey beneath the level of the ground on each side, and have a portico running along their front, level with the ground at the back, but one storey above the street. These porticoes, which are called the "rows," afford a covered walk to pedestrians, and beneath them are shops and warehouses on a level with the street. The ancient walls are kept in good repair, and form a delightful promenade, commanding fine prospects. The exchange, cathedral, and county hall are fine buildings. The race-course, lying between the wall and the river, is perfectly level. This was formerly the packet-station for Ireland.

Congleton (11,344) (*Dane*), near the E. of the county, has silk manufactures, and a grammar school.

Macclesfield (35,451) (*Bollin*) has much increased in prosperity, from the growing importance of its silk manufactures. In its neighbourhood, too, the cotton manufacture flourishes.

Stockport (53,000) (*Mersey*) is famed for cotton-spinning and weaving, and calico printing; also the manufacture of brushes and hats; it also has iron, brass, and woollen factories.

Crewe (18,000), a railway focus, with lines diverging in six different directions. It has the works of the London and North Western Railway, to the development of which its rise is owing.

Nantwich* (7000) (*Weaver*), has a brine spring, and produces salt. It also has shoe and glove making.

Birkenhead (66,000) (*Mersey*), is the largest town in the county It has extensive ship-building and immense docks.

Altrincham (8500), has linen weaving and gardening.

Runcorn (12,443) (*Mersey*), is engaged in coasting trade, coal mining and quarrying.

Norfolk, is one of the great agricultural counties, and includes some of the Fen country. It is nearly oval-shaped. It is drained by the *Yare* and *Great Ouse*, with their tributaries; and, with the exception of some slight swells, has not even a hill. No minerals are found. Mustard is cultivated on the borders of Cambridge; wheat and barley are its chief grain crops; fishing is important on the coast. Immense numbers of poultry are fed to supply the London market.

Norwich (80,000) (*Wensum*), is surrounded by walls, and is a fine city, with manufactures of bombazines, mixed stuffs, camlets, damasks, crapes, poplins, shawls, &c. Its cathedral is spacious and handsome. It has many splendid buildings, including a guild-hall, theatre, grammar school, and numerous churches. It was the first place in which a fire insurance was established on the principle of returning a portion of the profits to the insured.

Yarmouth (42,000) (*Yare*), is a free town, with an excellent harbour, safe "roads," and extensive shipping. It was formerly walled, and the old town is intersected by narrow lanes, called "rows." It is the principal seat of the herring fishery, imports timber, wines, and colonial produce, and exports barley and other grain.

Lynn Regis† (16,459) (*Great Ouse*), a handsome town, imports a great quantity of coal, and exports corn. It has an Exchange, and some good public buildings. A little N. is *Sandringham-hall*.

Thetford (4167) (*Little Ouse*), an old Saxon town, has trade in malt and grain.

Diss (4000) (*Wavency*), a market town on the S. border, has manufactures of brushes and hosiery.

Wells, with a good oyster fishery, has some coasting trade. The lobster trade of Cromer has almost disappeared.

Suffolk, with a gently undulating surface, and a dry climate, with marshy flats near the coast, is also an agri-

* *Wich* means salt in Celtic; hence the terms Northwich, Middlewich, &c.

† Formerly Lynn Episcopi, and the property of the Bishop of Norwich; Henry VIII., having seized the town, gave it its present name.

cultural county, where dairy-farming and tillage husbandry are extensively carried on. It is drained by the *Stour*, *Orwell*, *Lark*, *Little Ouse*, and the *Waveney* which separates it from Norfolk.

Ipswich (43,000) (*Orwell*), is an old town, which exports malt and corn. It has a coasting trade, and manufactures of iron and machinery. The district around is agricultural; and includes the manufacture of agricultural implements and manures, paper, soap, snuff mills, and docks for ship-building. It has some handsome churches and chapels, an hospital, and a grammar school.

Bury St. Edmund's (14,928) (*Lark*), beautifully situated, is regularly built, and has large corn and cattle markets. The district around is chiefly agricultural, but it is remarkable for the number of delightful noblemen's seats, whilst the town itself attracts many families by its grammar school, one of the most celebrated.

Sudbury (7000) (*Stour*), where the Flemings settled and introduced the woollen manufacture, is a very clean market-town with a grammar school.

Lowestoft (15,000), the most eastern town in England, has a great herring and a good mackerel fishery, a good harbour, and is a watering place, now much frequented. A battle was fought off the coast in 1665, when the Dutch fleet was defeated.

Bungay (2000) (*Waveney*), has a grammar school, printing trade, and silk manufactures. Beccles (5000) (*Waveney*), has trade in malt.

Essex, remarkable for its good husbandry, has, generally speaking, a level surface, with a few hills and forests in the centre, and a slight elevation towards the N.W.; near the sea and Thames, marshes abound; and many islands are near the coast; excellent grain crops are produced. The Royal Forest, *Epping*, extends 20 miles in the W., where the suburbs of London are fast extending. The *Stour*, *Lea*, *Blackwater*, *Chelmer*, and *Colne*, drain this county.

Chelmsford (9000) (*Chelmer*), stands in a beautiful valley, and has an important agricultural market. It is on the grand line of road, formerly Roman, from London to Colchester. It has a good grammar school, and much local trade.

Colchester (26,361), a military station on the Colne, is an ancient town long famous for its oysters. It has trade in oil-cake and malt, with very extensive tailoring establishments. In the civil war it sustained a siege, and was finally taken by Fairfaix, 1648, when both royalist commanders were executed.

Harwich (6000) (*Stour*), is the principal packet station for Holland. It has a good harbour and dock-yard, with increasing commerce.

Braintree (4800) (*Blackwater*), is an ancient town with a little silk-making and straw plaiting.

Walton and Southend (*Thames*), are favourite summer retreats.

Maldon (5586) (*Blackwater*), has oyster-fishing.

Barking, formerly the seat of a rich abbey, is near the Thames; its inhabitants are engaged in fisheries.

Waltham (5000) (*Lea*), manufactures powder and explosives.

Romford (6335), is engaged in brewing and gardening.

Surrey, lying S. of the Thames, contains the residences of many of the London business men, and has a rich soil towards its borders, but in the centre there is sandy ground and barren heath on the N. Downs, which on the W. contract to a ridge called the "Hog's Back." Corn and hops are extensively cultivated. There are excellent sheep-walks. The *Wey* and *Mole* are the chief rivers. It contains some splendid mansions and parks.

Guildford (9811) (*Wey*), 30 miles S.W. of London, with market-gardens and orchards, carries on a considerable traffic in grain, timber, malt, and coals; has paper and powder mills in the vicinity.

Kingston (15,257) (*Thames*), was the residence of several Saxon kings, has flax and oil mills, malt-kilns, and a good corn market. Railway connection has greatly increased it.

Reigate (16,000) (*Mole*), where there is a cave in which the barons secretly met who made King John sign the Magna Charta, is a great railway centre, and a flourishing town.

Dorking (5920) (*Mole*), is a clean town, remarkable for its prize fowls. Leith Hill, 900 ft. high, is in the vicinage.

Epsom (6276), has a mineral spring from which "Epsom salts" were once manufactured. Here our celebrated "Derby" races are held every year.

Croydon (55,652) (*Wandle*), a pleasant, wealthy town, 9 *m.* from London, is rapidly increasing in population. It has a good corn market and an annual fair.

Wimbledon (9087), where the annual rifle competition of the United Kingdom is held, is the residence of many London merchants.

Farnham (4480) (*Wey*), is in the midst of the best hop district: has an old palace. Near is More Park, the residence of Sir W. Temple, with whom Swift resided.

Richmond (16,826) (*Thames*), noted for its park and scenery, is

lately much improved, where Edward III., Henry VII., and Queen Elizabeth died.*

Kent, with small hills covering the entire surface, except the marshes which lie along the Thames and the Weald in the S., (a moist district,) is a great industrial county, in which the hop-culture prevails; it also produces excellent cereals, under the most approved husbandry. The Thames forms its northern boundary for about 40 miles; and its other rivers are *Stour*, *Rother*, *Medway*, and *Darent*. It is famous for fruits, woods of oak, beech, and chestnut.

Sheppey Isle, separated from the mainland by the *Swale*, is principally marsh and pasture land. *Sheerness* (14,000), on the Isle, is a naval station rising in importance: taken by the Dutch in 1667. The dockyard covers nearly sixty acres. A large fleet generally lies at Sheerness. It communicates with London by steamers, exporting corn, seeds, and oysters. Thanet Isle, of remarkable fertility, on which stands *Margate* (12,054), is on the N. E. of Kent, and *Ramsgate* (21,000), great resorts of Londoners during the bathing season. Goodwin Sands† protect the low shore from easterly winds, and serve as a great breakwater, forming the *Downs*, an excellent roadstead.

Greenwich, with its hospital for invalided sailors, its royal observatory in the park, is the resort of many strangers, who crowd from London by river, rail, and tram.

Canterbury (21,000), a city with a splendid cathedral, is erected on the site of the first Christian church built in England, has a grammar school founded by Henry VIII., is the see of an archbishop, who is "Primate of all England." There are woollen mills near the city; but its chief source of industry is the export of agricultural produce, especially hops. It has some very ancient ecclesiastical edifices. Here Thomas à Becket, then archbishop, was murdered, 1171. Cromwell used the cathedral as a stable for his troopers.

Gravesend (21,183), is engaged in ship-building and victualling, fishing and gardening.

Maidstone (26,198), the capital, on the Medway, carries on a considerable trade, especially in hops, of which it is the centre. In the vicinity are very extensive hop-grounds, and many paper, corn, and other mills. It has some manufactures; the district is large and mixed, being agricultural, commercial, maritime, and military.

* Burnt in 1497; rebuilt by Henry VII. in 1501, and called by him Richmond, his own former title.

† Formerly the estate of Earl Goodwin, and submerged by the sea.

Dover (28,270), Packet-Station for France, Belgium, and the East, a marine residence and fashionable watering-place, was the site fixed upon by the Harbour Commission for the first harbour of refuge to be constructed on the south-eastern coast, and is the principal of the Cinque Ports. It is also a military station, having barracks for 5,000 soldiers, and extensive fortifications. Dover is celebrated in history as a place of importance since the Norman Conquest, and has been often called the lock and key to all England. Here two disgraceful treaties were entered into—that by King John, by which he gave up his kingdom to the Pope; and that by King Charles II. (1670) when he secretly became a pensioner of France.

Woolwich, where every person entering the service of the artillery acquires a knowledge of the profession. Its dockyard (now closed) and royal arsenal, artillery barracks, military academy, and the royal military repository, are the chief attractions.

Tunbridge Wells has mineral waters, and is a place of fashionable resort.

Rochester (18,000), on the Medway, a city of very great antiquity, is the see of a bishop; has constant intercourse with the metropolis by rail and steam boats; has an excellent oyster fishery. The Roman Road, called Watling-street, passes through this town to Dover. It has two free schools, one called the King's, and the other the City School; a cathedral, and an old castle.

Chatham, an important military depot, is properly a modern continuation of Rochester, and is a busy place; has a dockyard and arsenal surrounded by a wall which encloses 90 acres.

Folkestone (12,694), on the coast, communicating by rail with London, and with the Continent by steam-packets. **Hythe** (3,363): its trade is wonderfully increasing. From its healthy and delightful situation it is annually becoming an attractive and fashionable watering-place for Londoners. It has a school of musketry.

Dartford (8,300) (*Darent*), has corn, paper, oil, and powder mills. Here Spielman built the first paper mill, and here Wat Tyler's rebellion broke out, 1381. **Deal** (8,000) (*N. Sea*), with **Sandwich** (3,096) (*Stour*), forming one of the Cinque Ports, is noted for skilful pilots and boatmen. Here Cæsar landed. **Deptford** (*Thames*), where Peter the Great worked as a ship carpenter, has navy victualling yard. **New Romney** (*St. of Dover*), stands on what was the old marsh, and is fortified: **Faversham** (7,198), with oysters, cement, and bricks. **Bromley** (11,000), with calico-printing, and **Sevenoaks** (4,118), with hops.

Sussex, a tillage and pasture county, with cliffs of chalk on the coast, has the rich pasture called the South Down Hills running through the centre, and a level country

north and south of these. It is drained by the *Rother*, *Ouse*, *Adur*, and *Arun*, in which, as well as along the coast, abundance of excellent fish is caught. The chief productions of this industrious county are corn, cattle, wool, wood, iron, chalk, fowl, and fish. It belongs to the district of the weald or woodland of former times.

Lewes (10,760) (*Ouse*) an ancient and well-built town, pleasantly situated, has trade in grain and malt. In 1264, a fierce battle was fought here, when the barons defeated Henry III. It has two annual fairs. Newhaven is its port, whence steamers cross the Channel. It has an excellent needle factory.

Chichester (9,850), once walled, and entered by gates, is an old, compact, and neat town on a plain. Its cathedral is much admired. Fine lobsters are caught.

Midhurst (6,756) contains a town-hall and some good public buildings, and has a corn market.

Worthing is now frequented as a watering place. It is completely sheltered by hills.

Brighton (90,000) (*Channel*), is a fashionable bathing-place, held in general esteem. Its fisheries of herrings and mackerel send considerable supplies to the London market. It possesses quick communication with the metropolis, and is increasing. Its admirable aquarium is worthy of a visit.

Hastings (29,300), one of the Cinque Ports, a most delightful watering-place, formerly possessed a good harbour, but its chief dependence now rests on its fisheries. The climate is mild and rendered agreeable by the beautiful and romantic scenery and interesting objects of the neighbourhood. *St. Leonard's* (2,737) a handsome suburb, has become a favourite residence. The "battle of Hastings" was won by William the Conqueror, 1066, who landed at Pevensey Bay, very near.

Sutton (6,600) has agricultural trade. Bognor (3,000) is a fashionable watering-place. Rye (*Rother*) had at one time a deep harbour, but it is now closed up. Littlehampton (*Arun*) and Seaford are noteworthy places.

Hampshire,* abounding in forests,† valleys, and woodlands, is, on the whole, a fertile and well-cultivated county, traversed by the N. and S. Downs, which are here united. It is drained by the *Itchen*, *Test*, and the *Avon*. Besides the usual crops, hops are extensively cultivated, and in the

* Called also Hants or Southampton.

† Great numbers of pigs are fed on the acorns, and the "Hampshire bacon" is much prized. The *New Forest* is in the S.W.; and the small forests of *East Bere* and *Woolmer* are also in this county.

S. of the county, there is great industry in supplying the usual articles of naval equipment to the immense number of vessels which lie in Spithead and the *Solent*. There are numerous oysters, lobsters, and other fish along the coast. In the *New Forest* there are oaks of many hundred years' growth. Spithead, defended from all winds, can accommodate 1,000 vessels. It is so deep, that at low water the largest ship can enter.

Winchester (14,703) (*Itchen*), a very ancient city, and a royal residence under the Romans, Saxons, and Normans, is in a valley between chalk hills, and has some fine public buildings. It has a magnificent cathedral, a college widely celebrated, and an infirmary, with numerous remains of castles and abbeys. It was the favourite residence of the Norman Kings.

Portsmouth* (113,500), at the mouth of Portsmouth harbour, unrivalled for spaciousness and safety, and defended by fortifications that render it impregnable, is the rendezvous of the Channel fleet. The docks, the arsenals, the storehouses, the block machinery, and the stupendous arrangements made here for building, repairing, and equipping a fleet, are on a stupendous scale. It is a government naval port; the population depends on the various public establishments, and comprises a great many half-pay officers. It is the resort of the West India and Peninsular steam packets; and the New York sailing packets, Indiamen, and ships going everywhere.

Southampton (54,000) (*Itchen*), a rising sea-port, the Packet Station for the West India, Mediterranean, East India, and China Mails, has a very extensive intercourse with the Channel Islands. It is the head-quarters of the Ordnance Survey. It was the birth-place of Dr. Watts, and has many excellent public buildings.

Christchurch (15,415), at the mouth of the Avon and Stour, is engaged in making fusee chains and gloves. It has a double tide.

Gosport, properly a suburb of Portsmouth, is parted from it by an arm of the sea, but partakes of the same industries.

Lyndhurst, the capital of the New Forest, is a small town.

The Isle of Wight, lovely in scenery and genial in climate, is politically united to Hants, from which it is separated by the Solent and Spithead. In the centre is a range of chalk downs running from E. to W.; pasture land abounds in the N., and corn lands in the S. It is

* This town, Chatham, and Plymouth are our naval arsenals.

about 23 miles from E. to W., and about 13 from N. to S., with an area of 149 square miles. The climate is, perhaps, the mildest in the British empire. The river *Medina* drains this isle, and divides it into two almost equal parts. Population is 65,000.

Newport (8,000) (*Medina*), the capital, is a neat, quiet little town, in a central position.

Cowes (5,730), the head-quarters of the Royal Yacht Squadron, stands at the mouth of the Medina. *Osborne House*, one of the palaces of Her Majesty, is in its vicinity.

Ryde (11,234) (*Spithead*), a highly fashionable town, much frequented for bathing and yachting, has a new pier, which forms an excellent promenade. In the vicinity are beautiful villas.

Ventnor (*Coast*), sheltered by neighbouring heights, lies on the S.W. of the island*: is a favourite winter residence.

Yarmouth, a small town of much antiquity, has some fishing. Sandown is a watering-place, and resort of consumptive patients.

Berks,* irregular in shape, lies S. of the Thames; has a varied scenery, by chalk hills and levels, often called vales, as the rich Vale of the "White Horse,"† with a good soil, is interesting as containing the favourite residence of our sovereigns, *Windsor* castle, surrounded by its park and gardens. Grain crops are largely raised, and the *Thames* and *Kennet*‡ afford good fish.

Reading (32,372) (*Kennet*), carries on a considerable trade in flour, timber, and malt; it has some establishments for making sail-cloths, ribands, and pins, and is much engaged in the making of boot-trees and lasts. It is the birth-place of Archbishop Laud; formerly had an abbey, the remains of which are still seen. It also has iron works and biscuit making.

Abingdon (5,800) consists of several wide streets; has a good market in grain, with a little cloth and carpet making.

Windsor (29,000), celebrated for its magnificent castle, has for ages been the residence of the British sovereigns. Its scenery of sylvan beauty, its park and gardens, are much admired. Its castle was first built by the Conqueror as a hunting seat. It is an agricultural

* Formerly written Barkshire; hence its present pronunciation.

† In the W. of the county; so called from a chalky cliff said to resemble a horse.

‡ "The Kennet swift, for silver eels renowned,
The Loddon slow, with verdant alders crowned."—*Pope.*

district, and includes some paper mills and carriage manufactories. Hungerford (6,270) (*Kennet*), near the borders of this county and Wilts, has a good grain market. Newbury (7,597) (*Kennet*), has trade in malting and machine making. Two battles, one in 1643, and the other in 1644, occurred here; the Royalists were defeated on both occasions. Maidenhead (6,173), on the Thames, is the resort of oarsmen. The renowned "Wellington College" is in this county.

Wilts, a fertile county, is divided into South and North; the former varied with hill, river, and valley, and abounding in rich meadows and grain fields; the latter is a thickly-wooded level district. The downs are in the middle, and afford excellent pasturage for sheep. The *Avons*, *Nadder*, and *Kennet*, are the chief rivers, by which it is admirably watered. Salisbury Plain, about 20 miles long and 14 broad, is a tract of chalk, where stands *Stonehenge*, the most remarkable and extensive Druidical remains in the United Kingdom.

Salisbury (13,000) with a fine cathedral, one of the most elegant and regular Gothic structures in the kingdom, is on the Avon, and has trade in ale.

Devizes (7,524), near the centre of the county, was once famous for its woollen manufactures, of which but little remains; but it has silk-throwing, snuff manufactories, and malt-kilns, and many public buildings. It is the seat of the county Lenten assizes and a good corn market.

Bradford (10,645) on the Avon, engaged in the west of England cloth manufacture, is a town of great antiquity.

Trowbridge (12,588), on the river Biss, has extensive manufactures of kerseymeres, tweeds, and broad cloths of the very best description. The town is the wealthiest and most prosperous in the county.

Swindon (11,469), standing on a hill, a neatly-built town, has great railway-workshops, and a corn market. It is chiefly inhabited by engineers and machinists.

Marlborough* (3,660), with a college founded in 1843 for the education of sons of Church of England clergymen, gave the title of duke to Lord Churchill, the celebrated general. It is a good butter and cheese mart, and has rope-making.

Calne (2,468) and Chippenham (6,887), are small towns with agricultural trade.

* So called from its chalk hills; chalk being anciently called marl.

Wilton (6,112), from which the county derived its name, produces the very best carpets. It stands on the Wiley. Here Alfred the Great defeated the Danes, 871.

Cricklade, on the Thames, was twice destroyed by the Danes. It is at present a centre of trade.

Dorset, uneven and hilly in surface, with luxuriant pasturage, beautiful scenery, and a mild climate, has been called the "Garden of England." It produces excellent pipe clay along the banks of the *Frome*. Immense flocks of sheep are fed on the downs and hills in the interior; corn, flax, and hemp, are grown. The *Stour* and *Frome* are the chief rivers.

The Isle of Portland, on which there is a convict prison, is much famed for its excellent building-stone, of which most London public edifices were built; and *Purbeck Island* gives abundance of paving-stones.

Dorchester (6,915), in the midst of an immense sheep pasturage district on the Frome, a town of great antiquity, seated at the point of junction of several railways, is noted for the excellence of its ale, and its extensive sheep and cattle fairs. It has a few cloth factories.

Weymouth (10,000), on the coast, the favourite resort of summer visitors as a bathing-place, is the seat of daily steam traffic to the Channel Islands. Portland Harbour renders it one of the most important naval stations, and it is defended by a large fortress.

Poole (10,129), a clean, well-built seaport, with a good tidal harbour, has trade with North America, and some coasting trade. It has long been famous for its excellent oysters. It has two tides in twelve hours.

Shaftesbury (2,472), a large old town, on a bleak hill, has agricultural trade.

Lyme Regis (2,329), now resorted to for sea-bathing, has coasting trade. Here Monmouth landed, 1685, in his unfortunate expedition.

Devon,* with about 160 miles of sea-coast, with fine bays and harbours, is a rich agricultural county, produces the best butter and cider, and numbers of fat oxen from its extensive pastures. It contains copper, tin, and lead, with bismuth and many other mineral substances. The uplands

* In the Royal Forest of *Exmoor* the red deer still roam; and on *Dartmoor* the wolf was hunted in Queen Elizabeth's time.

have a poor soil. The extensive waste called "Dartmoor Forest" lies in the W., supporting immense droves of small sheep. In the valleys the soil is rich, and the air particularly mild. Marble is abundant in the limestone rocks bordering on the Channel. It is drained by the *Exe*, *Tamar*, *Torridge*, *Dart*, and *Taw*, with numerous smaller streams. The scenery is beautiful in many places.

Exeter (34,646), termed "the Metropolis of the West," is a handsome commercial city, being the centre of an immense population, which has been greatly increased since the completion of the Bristol and Exeter Railway. It has a pleasant situation on an eminence on the E. bank of the Exe. Its cathedral churches and public buildings are much admired. Exeter carries on an export trade in cider and woollen goods, manufactured in the neighbourhood, and imports wine, fruits, drugs, linens, iron, hemp, timber, and tallow. It also has trade in corn and coal. Exeter communicates with Topsham by means of a canal capable of receiving ships of considerable size.

Plymouth, with a citadel, is noted for manufactures and a large foreign trade; its government dock-yards, gun wharf, victualling office, and royal marine barracks, strong fortifications, great naval and and military establishments, are much praised; with a spacious harbour, protected by a gigantic breakwater. The *Eddystone* lighthouse, about 10 miles distant, on a granite rock, is an instance of marvellous perseverance,*

Devonport, a naval arsenal and dockyard, indebted for its origin to its selection for one of our principal naval arsenals. Its harbour is admitted to be the finest in the world, and has also been chosen as the site of one of the great naval steam yards. Its dockyards cover ninety-six acres. It forms the headquarters of the western military district. Its industry is naval and commercial; the locality, however, is an agricultural one.

Barnstaple (11,636) (*Taw*), well built, has paper, leather, lace, and malting trade.

Bideford (6,953), prettily situated on the Torridge, has considerable shipbuilding, imports timber from America and the Baltic, sugar from the West Indies, and coals from S. Wales.

Exmouth (5,538), a watering-place enjoyable at all seasons from its climate, has been lately much improved by the erection of spacious docks, etc., and the building of tasteful residences in the vicinity.

* First erected, 1696; blown down in a hurricane, 1703; destroyed by fire, 1755. The present structure, which is a circular tower of stone 85 feet high, strongly cemented together, and firmly crammed, was built 1759.

Ilfracombe (4,700) (*Br. Channel*), an improving watering-place, has a safe harbour, and a good herring fishery. Torquay (21,000) (*Torbay*), is a delightful watering-place, with a mild climate, being sheltered by hills. Brixham is another watering-place, noted for a mild climate. Tavistock (7,725), combines with agriculture some tin and lead mining. It is the birth-place of Sir Francis Drake. Dartmouth (4,978) (*Dart*), an old town, was burned by the French in the reign of Richard I. Tiverton (10,000) (*Esk*), a town standing among hills, has manufactures of lace, a town-hall, and a theatre. Honiton (3,000) has a similar industry. Its streets are well lighted and paved. Totnes (4,000) (*Dart*), a railway centre, has a race course. Dawlish (4,000) and Teignmouth (7,000) are watering-places.

Cornwall,* whose mines have for centuries given employment to thousands, is a rugged county, with the most southern and most western points in England, with many barren high lands, an ungenial climate, and a light soil. Fishing is here a very important industry. The minerals, which are chiefly tin, copper, and lead, are mostly in the W. The E. is agricultural. The Land's End is nearly on the meridian of Dublin and Belfast. It is drained by the *Tamar* and *Camel*. The pilchard fishery is along the N. coast.

Bodmin (5,000), the capital, standing in the centre of the county, owes its importance to the mineral wealth in its vicinity.

Launceston (3,435), on the Tamar, in the extreme E., stands on the top of a small hill, and is a very ancient town.

Truro† (11,000), a well-built town, has extensive trade in tin, lead, copper mining and smelting works; hence called the mining capital of the county. It is the birth-place of the brothers Lander, the African travellers.

Liskeard (4,700), an improving town, is irregularly built.

Falmouth (5,294), with a good harbour, exports tin and copper.

Padstow exports potters' clay, and is one of the chief places of the pilchard fishery.

Penzance (10,046), on Mounts Bay, the most westerly town in England, is noted for the mildness of its climate, and carries on a considerable traffic in the exportation of tin and fish, is the market town for a large agricultural district, besides being an active seaport. Sir H. Davy was born here.

St. Ives (10,000), with coasting trade and a pilchard fishery, is an

* In shape like a horn or cornucopia; hence its name.
† So called from the Cornish word, *Truru*, which means "three streets."

old town on a bay of same name, where Perkin Warbeck landed to inflame the Cornish rebellion, 1487.

St. Austell, near a bay of same name, has rich tin and copper mines in its vicinity. Porcelain clay is also found here.

Somerset, with fertile valleys and hills running in parallel ridges, is a rich agricultural county, exhibiting every variety of soil and scenery. It is along the low lands near the coast that the famous "cheddar" cheese is produced. The valleys yield excellent crops of corn and grass; and its manufactures are important. Geese are reared in great numbers. In the north of the county coal and lead are found, particularly in the Mendip hills. It is drained by the *Avon*, *Parrot*, and *Tone*.

Taunton (15,000), with some good buildings, is the capital and assize town. There are some small silk and woollen manufactories, but the principal trade is agricultural. Imports of Welsh coal, and exports of agricultural and dairy produce are brought by the Bridgewater Canal. Here Monmouth proclaimed himself king, 1685, and here the inhuman Jeffries held the bloody assizes.

Bath* (52,500) (*Avon*), a well-built city, and a good market for beef, veal, mutton, etc., contains a greater number of booksellers and circulating libraries for its size than any city of the empire. The waters, to which the city owes its origin, well known to the Romans, retain all their medicinal qualities, and attract numerous visitors, particularly fashionable invalids.

Frome (9,750) is 11 miles south of Bath, near Selwood Forest, on a river of same name; has manufactures of woollens and ale.

Weston-Super-Mare (10,500) and Clevedon (4,000) are fashionable watering-places, the resort of many of the inhabitants of the midland and western counties. The former is the nearest English port to S. Wales. Its climate is bracing.

Glastonbury (3,670), with ruins of an old abbey which once covered 60 acres, has trade in shoes and gloves.

Crewkerne (3,560) is engaged in the making of sail-cloth and hosiery.

Bridgewater (12,000) (*Parrot*), produces excellent scouring bricks, widely known as "bath-bricks;" is remarkable for the height of its tide, which sometimes forms a bore; has coasting-trade, and is the birth-place of Admiral Blake.

Wells (4,517), a joint bishop's see with Bath, is pleasantly situated

* It has been called "a city of terraces and crescents."

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at the base of the Mendip hills; and besides its cathedral, considered one of the most superb in the kingdom, it has many attractions. The trade is at present chiefly retail; the silk and other manufactures, for which it was once famous, having been transferred to other places, and the corn market having declined considerably.

Wellington (5,119) (*Tone*) is engaged in agriculture.

Gloucester, though generally classed as an inland county, on account of the great width of the Severn estuary here is also regarded as maritime. It is naturally considered under three heads: the *Hill*, which, though considerably elevated, has a moderate climate; the *Vale*, which extends along the Severn on both sides, consisting of a rich loam; *Dean Forest*, the largest in England, constitutes the third division, supplies most of the timber to the navy, and lies W. of the Severn. Lead, coal, and iron are found in large quantities; but agriculture and dairy farming constitute the special industry. Excellent cheese is made. It is drained by the *Severn*, the *Avon*, and the *Wye*.

Gloucester (18,330), the cap., with a magnificent cathedral, stands on the Severn, has extensive manufactures of flax, timber, and iron. Its commerce is increasing. It is the birthplace of Taylor, the water-poet, and Whitfield, the preacher. It has a large number of statues.

Bristol, a county of itself, is an irregularly built city, and ranks as our third great port; its trade with the S. of Ireland, S. Wales, the West Indies, and several other places, being most extensive. It has also numerous manufactories of glass, soap, copper, brass, iron, lead, and tin; and some floor-cloth factories, iron foundries, ship-yards, chain-cable works, and sugar refineries. It is surrounded by coal-fields. The public buildings are noteworthy. Its cathedral was originally part of an old abbey of St. Augustine. It was made a free port in 1848, since which the city has greatly increased. It is the birth-place of Southey the poet, Sebastian Cabot, and other important individuals.

Clifton (26,364), on a rock, is a Bristol suburb, has mineral springs, a genial climate, and a much-admired suspension-bridge.

Stroud (35,602), amidst the Cotswolds, has water celebrated for the dyeing of scarlet and other grain colours, on which account the clothing trade has been extended for upwards of 20 miles along the river Frome. It has woollen and fulling mills, and dyeing establishments, and produces the best billiard cloths. *Painswick*, *Bisley*, and *Dursley*, are engaged in the cloth trade in this district.

Cheltenham, on the small river *Chelt*, delightfully situated in the vale of Gloucester, at the base of the Cotswolds, is celebrated for the salubrity of its air, and the medicinal properties of its waters. In summer the town is resorted to for its mineral springs, in winter it is frequented for its hunting and society, being a pleasure town. It has many fine public buildings, including a theatre, assembly, and concert rooms, and some good schools.

Cirencester (7,681) (*Churn*), was formerly a place of eminence whose abbot had a seat in parliament. It is the seat of the Royal Agricultural College, the district being chiefly agricultural—a great wool mart—carpets and cutlery are manufactured.

Tewkesbury (5,409), on the Avon, near its junction with the Severn, in the fertile vale of Evesham, was once famous for its monastery. It has manufactures of lace and hosiery, a grammar school, and some literary institutions. Here Edward IV. defeated the Lancastrians, 1471. Stow is a seat of the shoe trade.

Monmouth* formerly in Wales, rich in minerals (coal and iron), combines of late years agricultural, mining, and manufacturing industry. It is moorland on the S., hilly in the W., with every variety of scenery. The *Usk* is the chief river; the *Rumney* divides this county from Glamorgan, and the *Wye* from Gloucester. Welsh is much spoken here.

Monmouth (5,874), on the Wye, is the chief town of this prosperous county, surrounded by the most magnificent scenery, is the centre of mineral wealth, and contains many elements of prosperity. It has a grammar school, and is the birth-place of Henry V.

Abergavenny (7,000), an old town among the hills, has an old castle of historical note, a grammar school, coal and iron trade.

Newport (26,957), on the Usk, now raises its head as an important commercial station by its exports of iron and coal, and within the last few years an extensive and increasing trade has arisen in coal for steam purposes, steel rails, and tin plates. Here the Chartist riots broke out (1839), under Frost.

Chepstow, a fast improving town near the mouth of the Wye, with trade in timber, iron, coals, wines, and cider, has the highest tide in the British Isles, which often rises to 60 or 70 feet. Here on a rock, on the river's brink, stands an old castle, an impressive ruin.

Pontypool (5,000), a town N. of Newport, is the place where the

* In this county and Brecknock, large and useful mules, the finest in the kingdom, are much used, and the Spanish breed has been successfully introduced.

art of imitating Japan varnish was discovered. It has extensive iron and coal trade.

Tredegar (10,000) is famous as a coal and iron seat.

Hereford, famous for its cattle, hops, and wheat, produces much cider. The surface traversed by the Wye is richly wooded, orchards cover extensive districts. The Malvern hills touch the east border, and many other hills are found in the county; a good loam soil is in the lowlands.

Hereford (18,355), an episcopal city, with a cathedral and some fine public buildings, stands on the Wye; has manufactures of leather gloves, hats, flannels, and cutlery; and trade in cider, hops, corn, wool, bark, and timber. In October the largest fair in England for cattle and sheep is held in this city; many orchards surround it. It is the birthplace of D. Garrick, and General Havelock.

Leominster (6,000), with narrow streets, on the small river Lugg, in a fertile vale, has trade in hats, cider, hops, and coarse cloth.

Ledbury (5,000), near which are some marble quarries, has trade in hops, perry, and cider.

Shropshire, with a level surface and fertile soil in the N. and E., is hilly in the S. and W. The Wreckin rises 1,300 feet, and the Corndon mountain 1,700 feet, above sea-level. The Severn, running from W. to S.E., divides it into two almost equal portions. This county produces pitch and tar in abundance. Colebrook-dale, with large iron-works, runs along the Severn between two nicely-wooded hills, and has a coal-field. It has also some moors and bogs, or mosses. Agriculture is the chief occupation of the people; but iron, coal, and lead constitute valuable industries.

Shrewsbury (23,300), on the Severn, has a grammar school, founded by Edward VI.; manufactures of linen, thread, canvas, and iron-wares; an extensive trade in coal, and a salmon fishery. It has some handsome churches; and here Harry Hotspur fell, having been defeated by Henry IV., 1403. It has a good market of provisions and Welsh flannels. Its cakes and stained glass are much esteemed.

Oswestry (7,308), near the borders of Wales, was named from the Saxon King Oswald. Its manufactures are coarse linens and woollens

Ludlow (5,087) (*Teme*), is a well-built town in the midst of a fertile country. Wenlock (19,400) and Madely (4,500) have coal mines.

Bridgenorth (5,900) (*Severn*), has been long famous for its gunsmiths. It also has worsted and nail factories.

Wellington (5,900) has coal mining, metal, and glass works. Some mineral springs are in the vicinity.

Stafford may be treated under three heads: the district of the Potteries in the N., the great coal and iron district in the S., called the *Black Country;* and the agricultural district in the centre. The prominent features of the Potteries are universal stacks of bricks, collieries, and foundries. Along the course of the Dove, excellent grazing land abounds; moorlands are found in the N.W., where some hills rise 1,000 to 1,200 feet. In this county, there are two coal fields; also marls, pipe-clay, and ironstone, are found. It is the seat of the manufacture of china and earthenware, and has a rapidly rising iron trade. It is drained by the *Trent* and its tributaries, the *Sow*, *Lyme*, and *Dove*.

Stafford (14,437), on the Sow, the county town, and one of the principal stations of the London and North-Western Railway, is neatly built, and is the largest railway centre in the county, lines radiating from it in six different directions. The staple trade of the town is the manufacture of boots and shoes, tanning and brewing. It has some good public buildings.

Wolverhampton, a place of great antiquity, the most populous and wealthy town in Staffordshire, is famous for its manufacture of locks and keys, hardware, japanned ware, and heavy iron articles. There are numerous furnaces for smelting iron in the immediate neighbourhood. Of the iron and coal district, in the S. of the county, Wolverhampton may be termed the metropolis.

Wednesbury, very much engaged in the iron trade, produces axles, wheels, girders, iron and brass tubes for locomotives, saws, harness, grates, and guns. It has numerous good schools.

Bilston (24,000), an improving town, has, in addition to the above, steel and japanned wares, foundries, forges, and slitting mills.

Walsall has manufactures of saddlers' ironmongery, the most extensive in the kingdom; iron bedsteads, spectacle-frames, and small steel goods are largely produced. It has a grammar school and many public buildings.

West Bromwich is now very industrious in the iron and coal trade.

The gas works are the largest known, and supply light sixteen miles around.

Hanley (40,000), is the central town of the Potteries. Within a radius of five miles there is a population of 200,000 persons, employed in the pottery, glass, coal, and iron trades. The district around is almost exhaustless in coal and ironstone. It has a school of art, several religious edifices, and a mechanics' institute; a town-hall, museum, and cattle-market.

Burslem (25,560), on an eminence, is well-built and much engaged in china and glass making. It has some good public buildings.

Stoke (130,500) (*Trent*), in the Potteries, has also extensive trade in iron and coal, and comprehends many townships. It has several fine churches, chapels, and schools.

Newcastle-under-Lyme (16,000), with broad streets, has cotton factories, manufactories of hats, and potteries; iron works, and large collieries in the vicinity. It has many public buildings, including a grammar school.

Leek (11,331) (*Churnet*), with silk manufactures, is well-built. Is a seat of the iron trade, and has manufactures of twists and ribands. It has many benevolent institutions.

Cheadle (*Tean*), has manufactures of tape, brass, tin, and copper.

Brierley Hill (11,000), has trade in coal and iron, glass works, &c.

Tamworth (*Tame*), the capital of the Mercian kings in Saxon times, is a railway centre, with brick-making, brewing, and dyeing. It has a grammar school and many benevolent institutions.

Burton (20,378) (*Trent*), consisting of two principal streets, has manufactures of cotton goods, hats, and iron-works. Its *ale* is universally esteemed, and its breweries are the largest in the world.

Lichfield (7,380), the birth-place of Dr. Johnson, has a cathedral and a grammar school. This city stands in a fine valley.

Worcester, with rich pastures in the valleys, has several hills, two of which run nearly parallel. The Malvern hills, running on the W. parallel to the Severn, are green to the summit, and afford good sheep pasturage. The Clent hills run towards the E. of the county. The *Avon*, *Stour*, and *Severn* drain the county; the latter running through it from N. to S. Apples, pears, potatoes, and hops, are largely produced. The climate is dry and the rainfall very small compared with other districts.

Worcester (33,221), a well-built, pleasant city, in a nice country, with broad streets, has a cathedral and many other places of worship;

a theatre, library, and a grammar school. It is noted for its manufacture of gloves and porcelain, vinegar, sauces, lace, and manures. In 1651 Cromwell, with 30,000 men, here defeated Charles II.

Bewdley (3,000), near the Severn, is a well-built town, with manufactures of carpets, combs, and some iron and brass works.

Bromsgrove (7,000), with a grammar school, is famed for its manufactures of buttons, nails, and needles.

Dudley, one of the most important business towns in the Midland Counties, has extensive manufactures of iron, besides trade in limestone and coal. Glass is also manufactured in considerable quantities. It is in a detached part of the county, and surrounded by S. Staffordshire. Its castle sustained a siege by the Parliamentarians. In the vicinity spas exist.

Malvern (6,000), one of the most fashionable and best frequented watering-places, is situated on the eastern declivity of the Malvern Hills. The admirable quality of the water, and the fame of its numerous physicians, attract great numbers of persons, while its many natural beauties render it a favourite resort to pleasure-seekers even in the winter. It has a college.

Redditch (6,000) has manufactures of needles, producing 70 or 80 millions per week; it also produces fishing tackle.

Kidderminster (22,000) (*Stour*), has carpet, woollen, and worsted factories, a grammar school, and other public buildings.

Droitwich (6,000), with prolific salt springs, and *Stourbridge* (10,000), with crucibles, are industrious towns.

Warwick, divided into two parts by the Avon, has a rich soil, a mild climate, and combines mining and manufacturing industry with agriculture. It is very much a level county of an oval shape, and has some fine plantations, and a small coal field. Several canals traverse this county, forming convenient means of transport before railways were introduced.

Warwick (11,000), an ancient town, burnt in 1694, but beautifully rebuilt on an eminence near the Avon, has many ancient monuments and buildings; the most important is Warwick Castle, the residence of the Earls of Warwick, standing on a rock forty feet in height. Cæsar's Tower, supposed to be the most ancient part of the fabric, is 147 feet high. Guy's Tower, at the north angle, 130 feet high, was erected in 1394. The interior is remarkable for its splendour and elegance. In the green-house is the celebrated Warwick Vase, presented by Sir W. Hamilton, and capable of containing 163 gallons, being 31 feet in circumference. It was considerably injured by fire, 1872.

Birmingham, in the N.W. of the county, on the Rea, is a great industrial seat, with the most extensive manufactures of machinery, fire-arms, etc., in the world. It stands on the side of a hill, nearly in the form of a crescent: its lower part is formed of workshops and warehouses, etc., the upper of regular and handsome buildings. In the time of Henry the Eighth it was chiefly inhabited by "smithes that use to make knives, and all manner of cutting tools, and lorimers that make bittes, and a great many nailours." The manufacture of fire-arms was introduced after the Revolution in 1688, and has increased with amazing rapidity. Swords and accoutrements are manufactured in large quantities. The button manufacture, and that of light and heavy steel goods, and steel pens, as well as iron and brass foundries, glass-cutting, die-sinking, electro-plating, edge-tools, agricultural implements, lamps, and gasaliers, iron bedsteads, and laminating, are carried on to an enormous extent. Most of the merchants and manufacturers have their residences in the vicinity of the town, and many of these display much architectural taste. The machinery made use of in the manufactures of Birmingham, will ever rank among the highest productions of human ingenuity, and the most valuable inventions of the age. Priestly, Hutton, and Watt, long resided here. It has a grammar school, park, and council-hall.

Coventry,* a city and county of itself, consisting of the city and municipality, is celebrated for every style of plain and fancy silk ribbons, gimp-trimming, and silk plush; for the manufacture of watches, and for its dyeing establishments. The surrounding villages are engaged in similar industries.

Rugby (10,000), pleasantly situated on the Avon, has a popular school. It has some good buildings, fine streets, and modern houses; is a great railway centre.

Stratford (6,000), on the Avon, is the birthplace of Shakspeare, and the place where he died; it has a grammar school.

Leamington (22,000) is celebrated for its twelve medicinal springs, and has a great hunting season from October to June, when the town is very full of visiters. It is handsomely built, having broad streets, nice squares and crescents.

Kenilworth (3,335), neatly built, has the ruins of an old castle, the seat of Simon de Montfort. Here for seventeen days Queen Elizabeth was entertained by the Earl of Leicester.

Nuneaton (7,350), has trade in ribbons, hats, mining, and quarrying.

Leicester, with gently rising hills, has a rich soil in the S.W.; but in N.E., where a light soil is found, it is rather

* Its walls, in 1662, were demolished by Charles II. Pop., 37,700.

poor. It produces the largest sheep and coach horses; and more than half the land is under pasturage. Green crops are largely produced, and much cheese is made in its extensive dairies. Its rivers are: *Avon*, *Soar*, *Anker*, and *Welland*, all of which rise in the W. of the county.

Leicester, on the Soar, is the first commercial town of importance on the railway route between London and the North. It is a place of very great antiquity, having been a city in the time of the Heptarchy. It employs a great number of persons in combing and spinning wool, and manufacturing it into articles of hosiery, in making elastics for boots, and lace. It has excellent schools. Here Cardinal Wolsey died, 1530. It was besieged and taken by Charles I., 1645.

Loughborough (11,600) (*Soar*), among fertile meadows, has manufactures of woollen and cotton hosiery, lace, millinery, boots and shoes.

Ashby-de-la-Zouch, a nice town with a good market. Coal and ironstone are worked in the neighbourhood. It has manufactures of hats and hosiery, and a grammar school.

Hinckley (7,000), a well built town, has Roman remains and extensive manufactures of coarse hosiery, needles, and baskets.

Melton Mowbray (5,000) is a handsome town, with stabling for the fox hunters who frequent it. It also makes pork pies for the London market.

Lincoln, a very flat county, with about 112 miles of a low marshy coast, has every variety of soil, and is greatly enriched by an improved system of husbandry. It produces splendid oxen of a large size; and the rearing of cattle is a staple industry, most of the fens now being rich pastures. This county supplies London with many of its rabbits, poultry, and wild fowl. Its surface presents three natural divisions: the *Fens*, now protected by firm embankments from the sea, which formerly inundated them, are highly productive; the *Heaths*, lying between the Humber and Grantham, more elevated, are well cultivated; and the *Wolds*, which run N. W. to the Humber, also produce good crops. The *Witham* has most of its course in the county, and the *Trent* and *Welland* also run through it.

Lincoln (26,762), the cap., an ancient city, stands on the Witham, on the slope of a hill. The cathedral, on an eminence, is one of the most magnificent buildings of the kind in Britain. Its bell is well known as the finest in England. There are extensive corn mills and iron works, linseed cake, manures, and hides for tanning are extensively imported; an enormous coal, wool, and corn trade is carried on. Its horse fair is celebrated. The "battle of Lincoln," in which Stephen was taken prisoner, occurred in 1141, and the defeat of the French called the "Fair of Lincoln" in 1217.

Spalding (9,966) is in an extensive agricultural district; it is also a port, being about eight miles from the Wash, on the Welland, by means of which it carries on a considerable trade in corn, coals, wood, flax, and hemp; and has a large cattle market.

Boston (15,576), a thriving town, on the Witham, carries on an extensive trade with the north of Europe in deals, battens, hemp, iron, and linen. It imports coals from Sunderland and Newcastle, and manufactures agricultural machinery; it has a grammar school.

Grimsby (20,238), on the Humber, has a fine harbour, extensive ship-building, and fishing trade.

Louth (10,500), on the Ludd, has carpet making, foundries, tanneries, traffic in coal and grain; a corn exchange and grammar school.

Grantham (5,000) (*Witham*), is a fine town, with agricultural industry, iron-founding, and manufactures of cakes. **Stamford** (7,846), handsomely built, with trade in malt, coal, and freestone, is in the centre of an agricultural district. **Horncastle** (*Bane*), has a magnificent horse fair, and trade in corn, leather, and wool. **Gainsborough** (7,500) (*Trent*), has extensive iron works. Here Cavendish was defeated and slain by Cromwell, 1643.

Rutland, the smallest county in England, is well watered by the *Welland* and many smaller streams. Corn and pasture land abound. The surface has open valleys running E. and W., and separated from one another by low hills and gentle elevations, particularly in the north-east.

Oakham (3,000), on the vale of Chatmoss fairly built, has an ancient castle, and a grammar school.

Uppingham (2,000) has a large school, and some agricultural trade.

Nottingham consists of a broad valley, very fruitful on the E. where a clay soil exists, but rather woody and unfruitful on the W. The climate is remarkably dry. Its

agriculture has lately been brought to great perfection, as well as its cattle-rearing. Sherwood, the only royal forest N. of the Trent, has much declined in extent. A small portion of the S. Yorkshire coal field runs into this county. Some good orchards and market gardens are found. It is drained by the *Trent*, and its tributary the *Idle*.

Nottingham, on a rock of soft stone, is a seat of the silk and cotton, hosiery, and lace manufactures. There are silk and cotton mills, and establishments for dyeing and bleaching. Tanning of leather is also carried on extensively. There is a great malting trade and a large business is done in corn and flour. Here Charles I. raised his standard, 1642. It has a grammar school.

Newark, (12,000), on an island in the Trent, has manufactures of sheeting, and other goods; and exports largely malt, corn, wool, gypsum, and limestone. It has a grammar school. Charles I. here gave himself up to the Scots, 1646.

Mansfield (11,000), an ancient and populous town on the borders of Sherwood Forest, is in the centre of a large manufacturing and mining district. It has a hosiery trade, iron foundries, malting, linen and flour trade.

East Retford (3,194), on the Idle, contains a town-hall, a theatre, and a news-room.

Worksop (8,000), in a well wooded valley, near the River Rayton, has trade in corn, malt, and liquorice.

Derby, is mountainous and hilly towards the N. and W. including the district of the Peak, which has four summits above 700 feet in height, and is remarkable for its caverns, about which many stories are told to visitors by the inhabitants of the district. The highlands are intersected by narrow valleys. Rich grain crops are produced in the level districts, and lead is found in the elevated regions. Many woods and coppices exist in Derby, and in general the farms are small, and mode of cultivation antiquated. It has great mineral wealth. It is drained by *Derwent*, *Dove*, and *Trent*.

Derby, on the Derwent, is famous for its silk manufactures; there are also several cotton factories and porcelain works. Here all kinds of ornaments are made of the marble and spar found in the vicinity. Many are employed in the lapidary and jewellery branches, trade

in malt and rolling mills, also foundries, tanneries, soap works, and bleaching grounds. Here in 1745 the Pretender halted and returned to the north.

Belper (8,527) (*Derwent*), with large cotton manufactures, is a flourishing town, with iron and lead mining.

Buxton (3,700) (*Wye*), lies in a pleasant valley, surrounded by hills. It has nine wells, whose waters are hot and sulphurous, yet palatable, often very efficacious in rheumatic complaints. It has a library, an assembly-room, &c.

Ripley (5,639), has trade in iron and coal.

Glossop (17,000), an important town near the Peak, is active and industrious, and has cotton manufactures, and calico printing.

Matlock (*Derwent*), much frequented for its beautiful scenery and its baths, is situated in a picturesque and attractive valley, surrounded by romantic hills.

Chesterfield (11,426) (*Rother*) has extensive coal works, iron foundries, lace, cotton, silk, and worsted manufactories, extensive malting establishments, machine works and potteries.

Hertford, the greatest malting county in England, is remarkable for its agricultural advancement. It has no lofty hills, the surface being undulating and much covered with wood. The climate is mild, and there are many orchards. It is watered by the *Lea* and *Colne*.

Hertford (7,164) (*Lea*), is a place of very considerable antiquity, and does a large agricultural and malting trade. Here King John of France, and King David II. of Scotland, were at the same time imprisoned in the reign of Edward III.

St. Alban's (8,303), a very ancient town, has some splendid churches and public buildings. Here the Lancastrians were defeated, 1455; and here, in 1461, the Yorkists were defeated by Queen Margaret.

Ware (5,000) (*Lea*), is an important corn market, and supplies London with water and malt. It was the scene of John Gilpin's well-known adventure.

Watford (7,500) (*Colne*), has a good corn and live stock market.

Bishop Stortford (6,500), is also engaged in the malting trade.

Buckingham, irregular in shape, is undulating in the S., but crossed in the N. by the Chiltern hills, N. of which

are the richest pastures, from which London receives much butter, and fat cattle. The *Chiltern hills*, once covered with beech, and rising to the height of 820 feet at Nettlebed, give name to a nominal office enabling a member of Parliament to vacate his seat. They rise to 900 feet, under the name of Wendover hill. Some paper is made; but agriculture is the staple industry of this county, which is drained by the *Thames* and *Ouse*.

Aylesbury (28,760), which has broad handsome streets, is the capital, and has some silk factories; and is the place of nomination at elections for the county. Its excellent breed of ducks is far-famed.

Buckingham (10,500) has a low situation on the Ouse, and though an ancient town, is of little importance. Bone-lace is the only manufacture.

Wycombe, or High Wycombe (4,811), with paper mills, lace, and upholstery trade, is a small borough.

Eton, opposite Windsor, on the Thames, has long been celebrated for its college, now attended by above 800 pupils. It was founded by Henry VI., 1440.

Great Marlow (6,619), with many paper mills, stands on the Thames.

Olney, on the Ouse, is a market town, with agricultural trade.

Oxford, a rich midland county, is hilly and woody on the S.E., elevated and stony in the N.E., but rich and fertile in the centre, wheat, barley, and oats being largely raised Much dairy farming is carried on. It is drained by numerous streams, tributaries of the Thames. The Chiltern hills, a range of chalk, run through the S.; Edgehill is on the borders of Warwick; Whichwood forest, once a wooded tract, is on the W., and produces some forest marble.

Oxford (31,554), the capital, the seat of the largest University in the United Kingdom, and one of the most celebrated in Europe, is a clean city, and a bishop's see. It derives its chief support from the University; but has also a brisk transit trade in iron and coals. Its streets are straight and well paved. Parliaments were often held here. The city stands between the streams Cherwell and Isis, and is noted for its beauty and the number and variety of its public buildings. It has botanic gardens, and an observatory.

Henley (4,509), on the Thames, is a handsome town, with a town hall, and a theatre It is the scene of an annual regatta.

Witney, on the Windrush, a tributary of the Thames, has long been noted for its blankets.

Banbury (4,106), on the Cherwell, is famous for its cakes cheese, and ale. It has plush and girth manufactures, iron and timber works. Here the Yorkists were defeated in 1469, the Earl Warwick defeating Edward IV., near this town, at *Edgecote*.

Woodstock (7,477), on the Glyme, with a handsome town hall, is famous for its manufacture of leather gloves; and near it is *Blenheim*, built and presented by a grateful nation to the great Duke of Marlborough.

Northampton, the only county in the British Isles touched by nine others, has good tillage and pasture land, with an undulating surface, well wooded and watered. Extensive forests and plantations distinguish it from the neighbouring counties: three forests may be mentioned:—Whittlewood, or Whittlebury, Salcey, and Rockingham. The ground rises towards the N. and N. W., with a gradual slope towards the S. The *Nen*, *Welland*, *Avon*, and *Ouse*, drain this county. The climate is mild, and the soil various but productive.

Northampton, is a handsome and well-built town, containing many public buildings, and a fine spacious market-place. The principal manufacture is that of boots and shoes. It has also lace and hosiery, leather-dressing, saddlery, and iron-foundries. Its horse fairs are much frequented. It was burned in 1675. In 1460, the Earl of Warwick here defeated the Lancastrians.

Peterborough (17,429), on the Nen, once the seat of a rich abbey, on the borders of the Fen district, has a cathedral, and is surrounded by numerous monastic remains of great interest. It has an excellent grammar school, is a most important railway centre, and the seat of large and increasing markets.

Wellingborough (9,430) (*Nen*), on an eminence, has trade in corn, boots and shoes, and lace. It is regularly built in modern style, having been nearly destroyed by fire in 1738.

Kettering, on the Nen, is well-built, has some splendid public buildings. It is a great seat of the boot and shoe trade. It has also woolstapling, and manufactures plush.

Huntingdon,* a part of which belongs to the Fen district, computed at 44,000 acres, of which 12,000 are pro-

* Called by the Saxons, Hunter's Down.

ductive, has a fertile soil, with rich pasture lands. It is drained by the *Nen* and *Ouse*. Whittlesea-mere, a sheet of water 2 miles long, and 1¼ broad, is in the N. E., and being now drained, produces luxuriant crops.

Huntingdon (4,242), the capital, stands on the Ouse on a rising ground, has trade in malt, wool, and corn. It has a grammar-school. It is the birth-place of Oliver Cromwell.

St. Ives (3,500), on the Ouse, has good cattle and sheep markets, and malting. Here Cromwell resided as a farmer.

St. Neots, (3,200), a nice town, has paper manufactures.

Bedford, nearly oval in form, is a small county, whose industry is principally agricultural, with a little straw-plait manufacture. Rich dairy farming prevails, and good crops are raised from its fertile, deep clay soil. A continuation of the Chiltern hills traverses it towards the S. It is drained by the *Ouse*, *Ivel*, and *Lea*.

Bedford (17,000), a good grain market, in a fertile tract on the Ouse (called the Vale of Bedford), has been celebrated for its manufacture of lace, and carries on an extensive trade in corn, coals, timber, and malt. A free education is given to children of inhabitants of all classes, in a series of schools, where eight exhibitions to college are annually given. It has trade in shoes and straw plait.

Biggleswade (4,200) (*Ivel*), with a good grain market, has manufactures of thread-lace, and straw plait.

Dunstable (4,558), on the Dunstable chalk downs, is the principal seat of the straw plait industry.

Leighton-Buzzard (*Ousel*), has lace and straw plait manufactures. It has a handsome corn-exchange.

Luton (17,317) (*Lea*), is pleasantly situated between ranges of the Chetham-hills, and employs many families in the manufacture of straw hats and bonnets.

Cambridge includes the island of Ely, a marshy district lying N. of the Ouse-in the Fen region; though marshy and fenny, it is now drained and becomes arable and splendidly tilled, and produces admirable oats and barley. This county is remarkably level, and its towns are situated on small elevations. It is drained by the *Ouse*, and its tributary the *Cam*.

Cambridge (30,740), on the Cam, derives its importance entirely from its celebrated University, consisting of seventeen colleges and halls situated in different parts of the town. The streets of the town are rather narrow.

Wisbeach (9,378), well built, on the Nen, is the port of Cambridgeshire. On account of the improvements in the river's navigation, it has risen to importance; holds a very prominent position in the Fen district, and is surrounded with populous villages, nearly all the inhabitants being engaged in trade, commerce, and agriculture.

Ely (8,200), in the midst of a fenny plain, is the only English city that has no member of Parliament.

Newmarket, on the borders of Suffolk, is well known on account of its races, which are held on a fine heath in the neighbourhood. It has great horse-training establishments, and most of its inhabitants are more or less interested in "Turf" matters.

March (5,854) is an agricultural town, and a great railway focus.

Middlesex, the metropolitan county, is doubtless the most important of the forty English counties, though only one other, Rutland, has a smaller superficial extent. The *Thames* forms its southern, the *Colne* its western, and the *Lea* its eastern boundary. The soil is, for the most part, gravel. The gently waving surface is well adapted for agriculture, though the soil, with the exception of a deep loam near the Thames, is naturally poor. Around London numerous nursery gardens, green-houses, noblemen's seats, and every other offspring of taste or luxury, are found. A range of small elevations protect the great metropolis from the north wind.

London* (3,251,000), the metropolis in many respects of all the world, stands on a plain through the centre of which runs the Thames; it is surrounded by hills of moderate height, and usually spoken of under five heads:—the *City* (74,732), containing the bank of England, the Mansion House, and the Royal Exchange, is the centre of the monetary transactions, of numerous and valuable commercial and manufacturing industries; the *East End*, lying further down the Thames, is engaged in everything connected with shipping; the *West End*, containing

* Formerly walled and entered by seven gates—Ludgate, Aldersgate, Aldgate, Cripplegate, Newgate, Moorgate, and Bishopsgate; and on the W. a gate called Temple-bar, which still remains. The population of the city proper is fast declining from year to year; the immense multitudes who here transact business, prefer to sleep in the outlets of London.

the club houses, and most of the theatres, with hundreds of handsome streets, and thousands of handsome shops, is principally occupied by the aristocracy and a few of the fortunate in professional life; *Southwark*, called the *Borough*, lies south of the Thames, abounds with numerous manufactures, hop and grain stores, breweries, distilleries, and tanneries, and is chiefly occupied by the industrial classes; *Westminster*, containing the Abbey, Parliament Houses, Law Courts, Buckingham palace, is a great centre of fashion, containing the town mansions of many of the nobility.

The public buildings are too numerous to mention—St. Paul's, Somerset House, the General Post-Office, British Museum, the several palaces, churches, theatres, and hotels are worthy of admiration.

Three distinct commercial industries exist—the foreign trade and wholesale trade of the port; the manufactures (glass, soap, silk, books, gloves, hats, etc.) of every variety; and the retail trade, which is unlimited in extent and variety.

The suburbs of London extend into Kent, Surrey, and Essex; and it is computed that the annual savings of the inhabitants of London exceed twenty millions of money.

To give even a condensed description of London, would require a volume of a very considerable size.

Uxbridge (7,346), whose inhabitants are engaged in the corn trade, furniture making, etc., stands on the Colne.

Staines (10,338), about 14 miles from London, stands on the Thames.

Brentford (11,079), the place of election for the county, has a handsome town-hall, a brewery, distillery, and saw-mills. It is on the Thames, and has trade by the river. Here Prince Rupert, in an attempt to reach London during a fog, was defeated by the Parliamentarians, 1642.

Harrow (15,867), about 10 miles N. of London, has an excellent grammar school.

Enfield (16,053), in the midst of delightful scenery, contains a government small arms factory of good repute.

Hampton, with its palace, called *Hampton Court*, not used as a royal residence since the time of George II., has delightful gardens open to the public, and stands 12 miles from London. It was built by Cardinal Wolsey, by whom it was presented to Henry VIII. 1525. The abortive attempt to reconcile Prelatists and Puritans, known as "Hampton Court Conference," was held here, 1604. Cromwell took up his residence in the Court, 1651.

Hounslow has commodious barracks and gunpowder mills. It was here the army of James II. was encamped when the trial of the seven bishops was held.

WALES.

WALES, consisting of twelve counties, lies on the W. of England proper, being bordered by the English counties of Cheshire, Salop, Hereford, and Monmouth. The surface is extremely mountainous and hilly, many beautiful valleys lying between the elevated ridges. Minerals abound, particularly in the north and south of the country. Much more rain falls in Wales than in England, the average in the former being 34 inches, while that of the latter is only 23 inches. The soil, owing to the rugged nature of the surface, is much better adapted for pasturage than tillage. The scenery in many places is most romantic and charming.

Flint, penetrated by Denbigh, has rich mines of coal and freestone in the valleys, lead, limestone, and calamine in the hills. It is the smallest of the Welsh counties. The N. produces wheat, but mining and smelting are the chief industries. Its lead mines are the richest in the United Kingdom. Butter, cheese, and honey are produced, and tiles and bricks are made. It is drained by the *Clwyd*, *Dee*, and *Wheeler*.

Mold (4,000) (*Alyn*) has valuable trade in lead and coal mines. Great quantities of coals are shipped from Flint (4,000) (*Dee*). In its castle, now in ruins, Richard II. was imprisoned by the Duke of Lancaster, 1399.

Holywell (7,961), a thriving industrial town, is built on the declivity of a hill. It has manufactories of cottons and galloons, together with large smelting houses. It is so named from St. Winnifred's well, the most prolific spring in the world. It throws up 21 tons of clear water every minute.

St. Asaph (2,001) (*Clwyd*), is a small city, with a cathedral built of wood in 596 by St. Asaph, and rebuilt in 1770.

Rhyl (4,229) is a favourite watering-place, and a marine winter residence.

Denbigh, rugged, wild and mostly mountainous, has exquisite scenery. Lead, coal, iron, and slate are found. The famous productive vale of Clwyd runs through it for 17 miles. It is chiefly drained by the *Dee*.

Denbigh (6,322), on a rocky hill, is a small town, formerly walled, engaged in woollen and leather manufactures.

Ruthin (3,300) (*Clwyd*), has the remains of an old castle. Wrexham (8,576), has extensive flannel-making, some paper-mills, iron works, with lead and coal mines. Llangollen (2,798) (*Dee*) in a beautiful valley, has woollen and flannel manufactures, and slate quarries.

Carnarvon, is the most mountainous county in Wales. It produces immense quantities of slates; between 200,000 and 300,000 tons being annually shipped from Bangor and Carnarvon. Its rocks are stupendous and sharp. On the hills small cattle, some sheep and goats graze. A few fertile tracts are found on the banks of the Conway river. At Penrhyn are excellent slate quarries.

Carnarvon (9,370) (*Menai Strait* and *Seiont*), is an ancient town, in the castle of which Edward II., the first Prince of Wales, was born. It carries on considerable coasting trade.

Bangor (7,700) (*Menai Strait*), a small episcopal city, a pleasant secluded bathing place, is the favourite resort of many, being the head-quarters of tourists to N. Wales. It is built between two ridges of rock, with a fine opening towards the sea. Beautiful mountain and water scenery is observable from the summit of the hills on either side. The chief attractions of the neighbourhood are Stephenson's wonderful tubular bridge,* and Telford's charming suspension bridge† over the Menai Strait. Conway (3,000) (*Conway*) is a fine old town, with an exquisite old castle standing on a rock. Llandudno (2,762) (*Ir. Sea*), is an elegant modern watering-place in a detached part of the county. Llanberis, on a lake of the same name, is frequented by tourists on account of its scenery.

Anglesea,‡ with a rocky circumference of 80 miles, has

* The *Britannia Tubular Bridge*, 1,560 feet long, may be described as a huge double barrel of a gun, the train running through one barrel and returning through the other. These tubes, of wrought-iron plates, riveted together, rest on massive pillars, one on a rock in the centre. In 1848, Stephenson erected another tubular bridge across the Conway.

† This bridge, standing 100 feet above high water, was erected by Telford in 1826, for the passage of the mail coach. It is 550 feet long, and 26 feet broad, fastened in the rock, and suspended by 16 immense chains.

‡ Called *Mona* by Tacitus, *Arvon* (the farthermost isle) by the Britons; it was a great seat of the Druids; attacked by Paulinus, the Roman commander, in A.D. 61, and many of the sacred groves cut down. The Saxons gave it the present name, "Angles ea," the isle of the Angles, or English.

two good harbours—Beaumaris and Holyhead; a soil, when well tilled, not unproductive; with a mild but foggy climate; a surface bare and in some places rocky. Numbers of small cattle are fed. The coasts have good fisheries, and copper and marble abound. Holyhead, or Holy Island, has a wild and rocky N. coast.

Beaumaris (2,234), the capital, on the Menai Strait, has sea bathing and coasting trade.

Amlwch, (3000) N. coast, has the copper mines in its vicinity.

Holyhead (8,300) is the packet station for Ireland. Its harbour, formed by a noble breakwater, affords a secure roadstead in all states of the weather.

Merioneth, hilly and mountainous, with many deep valleys, has a poor soil and scanty pasturage, on which small ponies and cattle are fed. Its towns are very small.

Dolgelly (3,357), romantically situated near *Cader Idris*, is a lovely little town, amidst mountains, lakes, and waterfalls. Bala (1,539) (*L. Bala*) is a clean town. Towyn (3,000) (*Coast*), is a bathing place Harlech (*Coast*) has greatly declined. Barmouth (*Mowddach*), a small port, is a place for sea bathing.

Montgomery, the best wooded portion of Wales, is a compact county; contains Plinlimmon, a high mountain with good pastures on its sides; many bleak moor lands are found in this county, and hardy ponies graze on the hills. It is drained by the *Severn*.

Montgomery (1,000), the capital, has the remains of two castles; is a town of great antiquity, with flannel trade.

Newtown (6,000), another station of the flannel manufacture, stands on the Severn, in a valley.

Welshpool (7,000), on the Severn, has a trade in flannels and malt.

Llanidloes (3,426), also on the Severn, has a similar industry.

Cardigan, lying along a bay of the same name, is level and fertile towards the coast and mountainous inland. It has lead mines; produces copper, zinc, and slate, and some silver.

Cardigan (3,535), the cap. is a small town on the Teify, with active trade, and a herring fishery.

Aberystwith (7,000), overhanging the sea, has a most salubrious situation, is a favourite watering-place, has a herring fishery with some coasting trade, iron and coal mines.

Lampeter, on the Teify, is a small town. The only Welsh college, called St. David's, is in this town. It was founded 1822.

Pembroke, with a ridge of hills running across the county from the coast, is mountainous, but has many easy slopes, and some valleys. The scenery is in many places exquisite. Two large inlets are found on the coast. The coast of this county is only 50 miles from that of Wexford.

Pembroke (13,741), the seat of one of the government dock-yards, was the birth-place of Henry VII. Tenby (4,000), a modern watering-place, romantically situated on a promontory, was burnt by the French, 1403. Haverford West (7,000), picturesquely situated on the banks of the West Cleddan, is an active little port with convenient quays. Milford (3,000), with a deep bay, is the packet-station for the South of Ireland.

Carmarthen, mountainous and woody, healthy and fertile, has many long narrow valleys. Though coal, lead, and iron abound, the most important industry is agriculture. It is drained by the *Tawe* and *Towy*.

Carmarthen (12,899), the capital, is a well-built and populous town on the Towy, which admits vessels of moderate burthen. The district around is important, on account of its numerous copper and tin works, with coal and lead mines. The town has some fine public buildings.

Llanelly (18,446), a flourishing town with increasing trade, has collieries, and coasting trade.

Llandovery (1,861), surrounded by wild and barren hills, is an important town.

Kidwelly, once walled, has an ancient castle.

Llandeilo, on the Towy, has a nice situation, and is clean and healthy, though badly built. It was once the abode of the Welsh princes.

Glamorgan, the largest county in Wales, is principally noted for its profusion of coal, iron, and limestone; its mineral wealth having caused towns to rise and manufactories to be built in the most dreary regions.

Cardiff (39,625), the cap., the great outlet for the surrounding coal and iron district, on the Taff, has a commodious harbour, and a very lively coasting trade, manufactures of iron and tin plates, and coal works; has capacious docks, and its exports are considerable. In its castle Robert of Normandy was confined 28 years by his brother Henry. It has a new town-hall, merchants' hall, crown court, etc., and belongs to the Marquis of Bute.

Merthyr Tydvil,* a great mining town, the largest in Wales, stands in the N.E. corner of the county, on the Taff, among rugged and bleak looking hills. It has the largest smelting furnaces in the world, in one of which 1,000 tons of coals are daily consumed; these with forges, rolling mills, etc., produce an amazing nightly glare for miles around. The streets are irregularly built, and the town is badly supplied with water.

Aberdare (36,000), is extensively engaged in coal and iron mining.

Swansea, on a rising ground, on the W. side of the Tawe, the mouth of which forms an excellent port, with piers, quays, large floating harbour and docks, and every other accommodation for traffic, is the greatest copper market in the world, the ore being brought here from all parts for sale and smelting. It has extensive potteries and china works, and carries on a large trade in coals, patent fuel, *copper*, lead, iron, silver, and tin. Gower, the poet, and Beau Nash were born here.

Neath (9,134), on a stream of same name, is a busy place in coal and iron, and has also copper smelting.

Llandaff, with an old cathedral, is more like a large village than a town, and forms a place of transit trade.

Brecknock, crossed by a chain of hills called the *Epynt*, S. of which is delightful scenery, is on the whole a very hilly county: Brecknock Beacon rising 2,682 feet, Trecastlet Beacon, 2,594 feet, near the source of the Usk. Coal is found near the southern border, and limestone on the W. Small cattle and black sheep abound on the hills. It is drained by the *Usk* and its tributaries.

Brecon (6,000), in the midst of beautiful mountain scenery, on the Usk, is the capital; has good public buildings, a grammar school training college, county hall, and market-house; and is much engaged in agriculture, iron and copper works.

* From *Martyr Tudfyl.* St. Tudfyl, the daughter of a Welsh chief was put to death here, on account of embracing Christianity.

Builth, on the Wye, has trout and salmon fishing, and charming scenery. Here the Welsh prince, Llewellyn, was killed by the English, 1282. Its castle was the hunting seat of this prince.

Hay (2,000) (*Wye*), has some woollen manufactures.

Radnor, separated from Brecknock by the river Wye, is wild and dreary; more than one-half of its surface being lofty, and covered with bogs and moors. *Radnor-forest*, on the E., is a wild moss and heathy tract.

Presteign (1,713) (*Lug*), is small and unimportant.

New Radnor is also a small town of little importance.

Isle of Man* is divided into two unequal parts by a mountain ridge running from N. to S., rising in the highest peak, *Snæfell*, 2,004 feet above sea-level, and covered on the sides with turf and heath. The minerals are lead, copper, and tin. The climate is variable, damp, and windy; but temperate. The summer is so cool as to cause late harvests; but turnips are excellent and extensively cultivated. Fishing is an important industry. The inhabitants are strongly attached to their native vales and mountains, have a parliament called the House of *Keys*, the united branches of the legislature being the *Tynwdal Court*, speak a language called Manx, a branch of the Celtic. One-ninth of the customs duty goes to the crown.

Castletown (*S. coast*), the capital, has some trade with Liverpool. Its castle is an antiquated pile. Douglas (14,000), a crescent-shaped town, is 75 m. from Liverpool. It has a good harbour, with fisheries of cod and herring. Peel is a station for the fleet, and the chief fishing station of the isle. Ramsey is a resort of tourists.

The Channel Isles.—These islands, possessing a mild and salubrious climate, lie near the coast of France, and are comparatively free from taxation. They have a local legis-

* According to latest returns, the total area of the isle is 180,000 statute acres. Of this 28,222 are under corn crops (including beans and peas), 12,688 under green crops, 384 under bare fallow, 32,175 under grass, and 13,031 are permanent pasture. There were 5,810 horses, 17,403 head of cattle, 53,565 sheep, and 6,332 pigs; so that the number to every 100 acres under crops, fallow, and grass, was 6·7 horses, 20·9 cattle, 61·9 sheep, and 5·5 pigs. This isle has a lieutenant-governor. Pop., 55,000.

lature called "States," whose decrees, on receiving the sanction of the Queen in council, become law. The flowers and fruits are of the very best quality.

Jersey,* the largest of these islands, is 84 miles S. of Portland, and 14 miles from the French coast. It has a gradual slope from N. to S., sharp cliffs on the N. side, and small bays and coves all round, some of which, as St. Aubin's bay, afford good anchorage. Nearly one-fourth of the island is under orchards. The fisheries, including oyster and lobster fisheries, are very extensive and valuable. The commerce is free, and dried fish are exported to Newfoundland, Brazil, and the Mediterranean. The people, who speak a "patois" composed of English and French, the latter predominating, are intelligent. The temperature is mild, warm, and perhaps more agreeable than that of England; the soil is fertile, but the system of agriculture is antiquated. They make much cider; and the pears of the island are highly esteemed.

St. Heliers (30,000), the capital, at the foot of a lofty rock, open to the warm breeze from the south, is a pleasant and gay town, with much trade in fish, fowl, fruit, etc., and much frequented by tourists. It was taken by the French in 1781; but they were driven out of it in a few hours.

Gorey, though a village, is the seat of the oyster fishery.

St. Aubin is a nice little town on the coast.

Guernsey, about 120 miles from Portsmouth, lies in St. Michael's bay, is nine miles long and six broad, with an excellent soil, abundance of fruit, and good crops of vegetables and grain, and extensive dairy farming.

St. Peter's (16,000), the only town on the island, stands on a small secure harbour on the E. coast.

The isles of *Alderney*, *Sark*, *Jethou*, and *Herm*, are dependencies of Guernsey.

Alderney, with lofty cliffs on the S. E., has a sandy soil

* This isle, with Guernsey, Sark, and Alderney, were a part of ancient Normandy, and came into the possession of England with the Conquest.

† Said to be the best oysters in the world.

around the coast, but many fertile valleys in the interior, in one of which, near the centre of the isle, stands *Alderney*, the capital. The reputation of its cows is well known.

The Scilly Isles, about 30 miles from Land's End, consist of 160 isles, islets, and rocks, 5 only inhabited, *St. Mary's*, *Tresco*, *St. Martin's*, *St. Agnes*, and *Bryher*, which are engaged in agriculture and fishing. The Gulf Stream laves them on the S., causing the summer temperature to be 51°, winter 45°. *St. Mary's* is the capital, but *Hugh Town* is larger. Sir Cloudsley Shovel and his fleet were lost here, 1707. They have one policeman.

TOWNS IN ENGLAND AND WALES, WITH AT LEAST 40,000 INHABITANTS.

Town.	County	Population.	Industry.
London,	Middlesex,	3,251,804	Every variety of trade, commerce, and manufactures.
Liverpool	Lancashire,	493,346	Great emporium of American and Irish commerce.
Manchester & Salford,	Do.,	383,843 124,805	Great seat of the cotton manufacture.
Birmingham,	Warwick,	343,696	Iron and metal manufactures, including firearms.
Leeds,	Yorkshire,	259,201	Great seat of the woollen manufacture.
Sheffield,	Do.,	239,947	Immense manufactures of cutlery and plated ware.
Bristol	Gloucester,	182,524	Third seaport—great trade with West Indies, glass making, etc.
Greenwich,	Kent,	167,632	Observatory and Asylum.
Bradford,	Yorkshire,	145,827	Manufactures of broad cloth; wool and corn markets.
Stoke,	Stafford,	130,507	Chief seat of "potteries."
Newcastle-on-Tyne,	Northumberland,	128,160	Fifth port; glass and chemical works; exports of coal.
Hull,	Yorkshire,	121,598	Fourth port—great trade with the Baltic.
Wednesbury,	Stafford,	116,768	Iron and coal.
Portsmouth,	Hampshire,	113,000	Great naval station; biscuit making and general trade.
Sunderland,	Durham,	98,335	Shipbuilding; coal exportation.
Merthyr-Tydvil	Glamorgan,	96,891	Great iron and coal seat; immense furnaces.
Leicester,	Leicestershire,	95,000	Woollen stockings; agricultural market.
Brighton,	Sussex	90,000	Fashionable watering-place.

Town.	County.	Population.	Industry.
Nottingham,	Nottingham,	86,680	Cotton stockings, lace, boots and shoes.
Preston,	Lancashire,	85,424	Cotton manufactures and watch-making.
Bolton,	Do.,	82,854	Cotton manufactures.
Oldham,	Do.,	82,619	Do., and hats.
Norwich,	Norfolk,	80,000	Crapes, and mixed stuffs; an agricultural mart.
Blackburn,	Lancashire,	76,337	Cotton manufactures.
Huddersfield,	York,	70,000	Woollen manufactures.
Wolverhampton,	Stafford,	68,279	Great iron and coal seat.
Plymouth,	Devonshire,	68,000	Shipbuilding and active commerce; a naval arsenal.
Birkenhead,	Cheshire,	66,000	Extensive shipbuilding.
Halifax,	York,	65,000	Woollen manufactures.
Southampton,	Hants,	54,000	Great packet station for Mediterranean and the E.
Croydon,	Surrey,	55,000	Residence of many Londoners.
Stockport,	Cheshire,	53,000	Cotton manufactures.
Bath,	Somerset,	52,542	Mineral waters; resort of invalids.
Swansea,	Glamorgan,	51,720	Great copper market; smelting works.
York,	Yorkshire,	45,358	Ecclesiastical capital of the North.
Devonport,	Devon,	50,000	Dockyard—shipbuilding.
Derby,	Derby,	49,723	Railway centre; silk.
Gateshead,	Durham,	48,592	Coal exporting, etc.
Walsall,	Stafford,	48,000	Iron and coal.
Rochdale,	Lancashire,	44,556	Cottons and flannels.
St. Helen's,	Lancashire,	45,240	Glass making.
Cheltenham,	Gloucester,	42,519	Fashionable watering-place.
Chatham,	Kent,	44,135	Government dockyard.
Exeter,	Devon,	44,000	Provincial capital.
Dudley,	Worcester,	43,781	Iron and coal.
Cricklade,	Wilts,	40,552	Agricultural trade.
Ipswich,	Suffolk,	43,000	Agriculture, silk, flax.
Yarmouth,	Norfolk,	41,792	Herring fishery.
Bury,	Lancashire,	41,517	Cotton manufacture.
Northampton,	Northam,	41,000	Boot and shoemaking.
Hanley,	Stafford,	40,000	Coal and iron.
Coventry,	Warwick,	40,000	Jewellery and silk.
N. Shields	N. Hum'land	39,000	Coal and iron trade.

Mountains.—Besides the *Cheviot Hills*, which lie between England and Scotland, four mountain-chains are distinguished.

I. The **Pennine** range, which extends from the Cheviot Hills, and, after forming the boundary between Northumberland, Durham, and York on the E., and Cumberland, Westmoreland, and Lancashire on the W.,* terminates in the Peak in Derby.

II. The **Cumbrian** group, separated from the former by the delightful valley of the Eden, consists more of detached masses and isolated peaks, all interspersed with beautiful lakes, and forming the most fascinating scenery.†

III. The **Cambrian** or Welsh mountains extend through most of the counties of N. Wales, and run into the S.‡

IV. The **Devonian** range, running through Devon and Cornwall, is more of the nature of a table-land, or rather a succession of table-lands, than any of the others; Exmoor and Dartmoor are the most important of these.§

Isolated Mountains.—The Wrekin (Shrops:), 1,320 feet; Snaefell (Isle of Man), 2,004.

Hills.—Perhaps the *N. and S. Downs* are the most important hills. The N. Downs run S. of the Thames, from Salisbury Plain through Hants, Surrey, and Kent; the S. Downs through Hants and Sussex, terminating at Beachy Head. These ranges are connected by the *Alton* hills in 1° W. longitude. The next range bears three names: the *Chiltern Hills* (Bucks), *Gog Magog* (Cambridge), *East Anglian* in Suffolk and Norfolk. The *Malvern Hills* (Worcester), *Cotswold* (Gloucester), *Mendip* and *Quantock* (Som.). In Yorkshire, the *N. York Moors*, rising above 1,400 feet, and the *Wolds*, rising to 809 feet; also the *Wolds* in Lincoln; *Edgehill*, S. of Warwick.

Plains.—The most important Plains are:—

I. The **Plain of York**, on the E. of the Pennine range, and W. of the Wolds, includes very much of the basin of the Ouse.

II. The **Central Plain**, which includes much of Warwick, Northampton, Huntingdon, and Bedford, W. of the Nen, some portions of it attaining to an elevation of from 200 to 400 feet.

* In this range Cross Fell (*Cum.*) rises 2,901 feet, and overshadows three counties; Shunner Fell (confines of York), 2,329 feet; Great Whernside, 2,385; Ingleborough, 2,361; Pennigant, 2,276; Bowfell, 2,910 (last four are in Yorkshire); the Peak in Derby (1,859 feet), well known for its caverns and minerals.

† In this group, Scafell, the highest English mountain, rises 3,230; Skiddaw, with the most romantic scenery, 3,022; Helvellyn, 3,055; Saddleback, 2,787 feet.

‡ Snowdon, the highest peak in South Britain, is 3,571; Arran Fowddy (Merioneth), 2,955; Cader Idris, 2,914; Plinlimmon, 2,463; Black Mountains (Brecknock), 2,866.

§ *Brown Willy*, in Cornwall, is the highest peak. Dartmoor is nearly 2,000 feet above sea level.

III. The Fen District, which lies around the Wash, including part of Lincoln, S. of the Wolds, part of Northampton, Cambridge, and a small portion of Norfolk.

IV. The Eastern Plain, lying E. of the hills already mentioned, includes most of Norfolk, Suffolk, and Essex.

V. Salisbury Plain is an undulating table-land, lying between the Mendip Hills and the Downs.

VI. Cheshire Plain runs from Manchester to Shrewsbury, with the river Weaver in the centre, and from N. Stafford Hills to Flintshire.

Minerals.—The minerals occupy 4,100 square miles, or one-fourteenth of the whole surface. England has 12 coal-fields, and Wales 3; of these 5 are large; numbers 1, 3, 4, 5, and 6 in the following list:—

1. Northumberland and Durham, the most productive field in the world, and the most worked; lies between the rivers Coquet and Tees. Its ports are Newcastle, North and South Shields, Tynemouth, and Sunderland; all of which export immense quantities of coal.

2. Whitehaven, in the W. of Cumberland, produces the very best coal, which is shipped from its ports, Whitehaven, Workington, and Cockermouth.

3. Leeds and Nottingham, lies in the S. W. of Yorkshire, and N. of Derby and Nottinghamshire.

4. South Lancashire, extending from the Pennine Range to the estuary of the Mersey, its centre being Wigan, is a productive field.

5. South Stafford, or Dudley, contains the thickest bed in England, and the district is designated as the "black country."

6. South Wales, the most extensive coal-field of all, runs from St. Bride's bay through South Wales for 100 miles, extends beyond Merthyr-Tydvil on the N., and as far as Newport on the S., and terminates at the most eastern part of the Usk.

7. North Stafford, in which are situated the Potteries, is a small field.

8. North Wales, in Flintshire, extending from the Dee to the Oswestry, is pretty extensively worked.

9. Anglesea, perhaps the least productive, and with an inferior quality of coal, lies in the island of same name.

10. Dean Forest, in Gloucester, on the W. bank of Severn, is also a small field.

11. Bristol, which extends on both sides of the river Avon, is so named from its proximity to Bristol; 12. Warwickshire, near Birmingham, is a small field; 13. Leicestershire, is in the county of same name; 14. Shropshire, is also a small field in county of same name; 15. the Ingleton, in the N.W of Yorkshire.

Iron is always found in the vicinity of coal-fields. There are 3 great iron seats—Merthyr-Tydvil, Wolverhampton, and Rotherham—each in a great coal-field. The following are the smaller iron seats:—(1) Derbyshire, (2) Cumberland, near Whitehaven, (3) Flint, (4) North Stafford, (5) Dean Forest, (6) Coalbrookdale, in Shropshire, (7) Cornwall, (8) Warwick, (9) Northampton, from Kettering to Wellingborough, (10) North Somerset, (11) Lancashire.

Copper. There are two great copper seats, Cornwall and Devon; four smaller ones, Anglesea, Denbigh, Cumberland, and Cheshire.

Tin is largely found in Devon and Cornwall, the mines having been worked for ages.

Lead. This metal is found in Northumberland, Cumberland, Derby, Durham, Westmoreland, Montgomery, Salop, Yorkshire, I. of Man, Flint, Somerset, Devon, Cornwall, Denbigh, and Cardigan. Silver is only found in small quantities with lead. Salt abounds in Cheshire, near Nantwich, and in Worcester, near Droitwich.

Zinc is found in Derby, Flint, and the Isle of Man.

Manganese is found in Devon and Cornwall, and in Warwick near Coventry.

Slate is found near Bangor and Llanberis, N. Wales.

Marble exists in Dorset.

Granite is found in Dorset, Devon, and Cornwall.

Alum is found near Whitby, and at Goole in York; *Kaolin, China,* or *potters' clay,* in Cornwall.

Forests.—The following are the principal forests:—

The *New Forest,** *Alice Holt, Woolmer,* and *Bere,* in Hants; *Dean Forest* in Gloucester; *Windsor* in Berks; *Epping* and *Hainault* in Essex; *Whittlebury,* and *Salcy,* and *Rockingham,* in Northampton; *Wychwood* in Oxford; *Delamere* in Cheshire; *Sherwood* in Nottingham; *Rothbury* in Northumberland; *Inglewood* in Cumberland; *Martindale* in Westmoreland; *Lune, Stainmoor,* and *Bowland,* in Yorkshire; *Wyredale* in Lancashire; *Needwood* and *Cannock Chase* in Stafford; *Exmoor* and *Dartmoor* in Devon; *Tilgate* and *Ashdow,* in Sussex.

Canals.—The principal Canals of England, which prior to the introduction of railways contributed so materially to the development of the inland traffic by facilitating intercourse between the trading towns, are as follows:—

* It occupies 67,000 acres, of which 6,000 are under timber. *Dean Forest* occupies 23,000 acres, of which 11,000 are under timber. *Whittlebury* occupies 5,400 acres, of which 3,700 are under timber. *Windsor* about 7,000 acres.

1. The Sankey Canal, extending from the coal-pits at St. Helen's to the Mersey and Liverpool.

2. Duke of Bridgewater's Canal, extending from about 7 miles from Manchester, through a hill, by a subterraneous passage, to the duke's coal works at Worsley.

3. The Grand Trunk or Staffordshire Canal, 90 miles long, connects the Mersey with the Trent, and consequently the Irish Sea with the German Ocean. Near Stafford there are three branches, one joining the Severn near Bewdley, another extending to Birmingham, and the third to Worcester.

4. The Braunston or Grand Junction Canal extends from the Thames, at Brentford, to the Coventry Canal, at Braunston, in Northamptonshire.

Besides the above, many others have been cut in various parts of the kingdom; as the Lancaster Canal, one from Liverpool to Leeds, one from Halifax to Manchester, one from Basingstoke to the Thames, and one from Andover to the river Itchen near Southampton.

Rivers.—Falling into the North Sea:—The *Alne, Coquet, Wansbeck, Tyne, Wear, Tees, Ouse, Humber, Witham, Welland, Nen, Great Ouse, Yare, Waveney, Orwell, Stour, Colne, Chelmer, Thames,* and *Stour.*

The Till, an English tributary of the Tweed, is about 28 miles long, and passes Flodden Field.

The Alne, Coquet, and Wansbeck, are small rivers draining the N. E. of Northumberland, and falling into the North Sea.

The Tyne is formed by the N. Tyne, which has its source on the Scottish border, and the S. Tyne, which rises in Cross Fell mountain, both uniting near Hexham, whence the river flows E. through elegant scenery, becomes navigable 8 miles above Newcastle, at Blaydon, and after passing Newcastle, N. and S. Shields, and Gateshead, enters the sea at Tynemouth, after a course of 90 miles. On the Tyne every year 3,000 tons of steel are produced; copper is smelted worth £100,000; silver is extracted from immense quantities of lead brought from Alston-moor, and Weardale.

The Wear, a river also of great commercial value, rises in the Pennine range, and running through the centre of Durham county, passes Bishop Auckland, Durham, and Sunderland.

The Tees, navigable to Stockton, forms the boundary between Durham and York; it rises in Cross Fell, and is 80 miles long.

The Humber, strictly speaking, an estuary, extending about 50 miles inland, but has a basin in extent 9,500 square miles.

The Ouse, formed at Boroughbridge, of the *Ure* and *Swale*, passes York, Selby, and Goole, about 8 miles below which it is joined by the *Trent*, and both form the Humber. Its tributaries on the W. are *Nidd*, *Wharfe*, *Aire* (on which are Leeds, Bingley, and Keighley) and *Don;* on the E. the *Derwent*. The basin of this river includes very nearly the whole of Yorkshire. The *Calder* is a tributary of the Aire, and the *Dearne* of the Don.

The Trent, just mentioned, rises on the N. of Stafford, its source being 600 feet above sea level, and after passing through Derby, Notts, and Lincoln, joins the Ouse, after a course of 170 miles, being navigable for barges for 120 miles. On the W. it is joined by the *Derwent*, *Idle*, and *Dove*. On the E. by the *Sow*, *Tame*, and *Soar*. The towns on its banks are, Stoke, Burton, Nottingham, Newark, and Gainsborough.

The Witham, rising in Rutland, passes Grantham, Lincoln, and Boston, enters, after a circuitous course, the Wash, which is also entered by the three following rivers:—

The Welland, rising in Northampton, passes Stamford and Spalding.

The Nen, also rising in Northampton, separates in part Huntingdon from this county, and Cambridge from Lincoln; it passes Peterborough.

The Great Ouse, rising in S. of Northampton, near Brackley, flows through Bucks, Bedford, Huntingdon, Cambridge, and Norfolk, passing Buckingham, Bedford, St. Neots, Huntingdon, Ely, and enters the Wash below King's Lynn. Its tributaries are the *Cam* and *Lark*.

The Yare runs S. E. through Norfolk, and enters the sea at Yarmouth, the city of Norwich being on a tributary, the *Wensum*.

The Waveney forms the boundary line between Norfolk and Suffolk, and joins the *Yare* near its mouth.

The Orwell, rising in the N.W. of Suffolk, runs S.W., passes Ipswich, and enters the North Sea near Harwich.

The Stour forms the boundary between Suffolk and Essex, and enters the sea at Harwich.

The Colne, rising in N. of Essex, flows E., and enters the sea a little below Colchester.

The Chelmer, running nearly parallel to the last named river, passes Chelmsford and Maldon.

The Thames, the most important river in the United Kingdom, rises on the Cotswold hills, only 7 miles E. of the Severn at Gloucester, the stream being called *Churn*, as far as Cricklade; after passing into Oxfordshire, and 35 miles further on curving to the S., it passes Oxford city, and flowing still S. past Wallingford. After receiving the Kennet, it proceeds in an easterly direction, passing Windsor and Eton, Richmond, London, Greenwich, Woolwich, Gravesend, and Sheerness, and terminates between Shoeburyness and Sheerness. On the

N. it receives the *Cherwell, Thame, Colne,* and *Lea.* On the S. the *Kennet, Wey, Mole, Medway,* and *Darent.*

The Stour, rises in the N. Downs, and after a winding course passes Canterbury and Sandwich, enters the North sea.

The following flow into the English Channel:—*Rother S. Ouse, Arun, Itchen, Test, S. Avon, Stour, Frome, Exe, Tamar.*

The Rother, forming the boundary for some distance between Kent and Sussex, unites with the *Brede,* and enters Rye bay.

The Ouse, running through the centre of Sussex, past Lewes passes through a cavity in the Downs, and falls into the sea, near Newhaven

The Arun rises in St. Leonard's forest near Horsham, and falls into the sea three miles below Arundel. It is noted for its mullets.

The Itchen and Test both flow into Southampton water; the former rising in the centre, and the latter in the N. of Hampshire.

The Avon, rising in the neighbourhood of Devizes, flows S., passes Salisbury, enters Hampshire, and enters the sea at Christ Church, after a course of 66 miles.

The Stour, rising in Wilts, passes Blandford, and enters the sea after joining the Avon.

The Frome, rising in Dorset, and flowing E., passing Wareham and Dorchester, enters Poole harbour.

The Exe, a tidal river to Topsham, rises in Exmoor Forest in Somerset, and passes Dulverton, a little beyond which it is joined by the confluent *Barle*; it then enters Devon, and passes Tiverton and Exeter, entering the sea at Exmouth, after 54 miles of a course.

The Tamar, which enters Plymouth Harbour, forms the boundary between Devon and Cornwall. Launceston, Devonport, and Plymouth are on its banks.

The following are on the West:—*Eden, Derwent, Lune, Wyre, Ribble, Mersey, Dee;* (and in Wales) *Clwyd, Conway, Dovey, Teify, Towy, Tawe, Taff, Usk, Wye, Severn, Avon, Tone, Taw, Torridge,* and the *Camel.*

The Eden rises in the Pennine chain in the E. of Westmoreland, runs through the vale of same name, passes Appleby and Carlisle, and flows into the Solway Frith, after a course of 65 miles.

The Derwent, rising in Borrowdale, runs through the lake of same name, and that of Bassenthwaite, receives the Cocker at Cockermouth, and enters the sea at Workington.

The Lune, Wyre, and Ribble, are small rivers running from the Pennine range across N. Lancashire, having for their respective ports, Lancaster, Fleetwood, and Preston.

The Mersey, flowing through the greatest manufacturing district in the country, forms a noble estuary of the greatest importance to the commercial prosperity of Liverpool. It is formed a little E. of Stockport by the *Thame* and *Goyt*, becomes navigable after receiving the Irwell from the N., forms its estuary after receiving the *Weaver* from the S., and enters the Irish Sea, after a course of 70 miles.

The Dee, with a course of 80 miles, and an estuary 9 miles long, rises in Merioneth, passes through Bala lake, the counties of Denbigh and Cheshire, entering the estuary below Chester.

The Clwyd, with a course of 30 miles, and the Conway, with a course of 30 miles, drain N. Wales, the former flowing through a beautiful valley in Denbighshire.

The Dovey and Teify bound Cardigan on the N. and S. respectively.

The Towy, Tawe, and Taff, drain S. Wales. All the Welsh rivers are rapid in their upper course, and receive many mountain streams.

The Usk is a fine trout stream, rising on the borders of Cardigan, winds through the centre of Brecknock and Monmouth, amidst delightful scenery, passes Brecken, and Abergavenny, and enters the Bristol Channel at Newport.

The Wye, rising in Plinlimmon, winds along the borders of several counties, amidst delightful scenery, as far as the borders of Hereford. It passes Builth, Hay, Hereford, Ross, Monmouth, and Chepstow, where it enters the Bristol Channel, after a course of 130 miles.

The Severn is the only English river that has 4 capitals of counties on its banks. Rising on the E. side of Plinlimmon, it runs N. to Shrewsbury, bends to the S. E.; and after a course of 220 miles, enters the Bristol Channel. An immense quantity of sediment is carried down by this river, and its tributaries, which, on the right bank, are the *Cound* and *Teme;* on the left, the *Vrynway*, *Terne*, *Stour*, *Salwarp*, and *Avon;* while it passes successively, Llanidloes, Newtown, Welshpool, Shrewsbury, Bridgenorth, Bewdley, Stourport, Worcester Upton, Tewkesbury, Gloucester, and Newnham.

Lakes.—The lakes of England are situated in the N.W. in the counties of Cumberland and Westmoreland, hence called "The Lake District." The chief are: *Windermere*, *Derwent, and Ullswater*, *Esthwaite*, *Grasmere*, *Rydelwater*, *Thirlmere*, *Coniston*, *Haweswater*, *Bassenthwaite*, *Butternere*, *Loweswater*, *Ennerdale*, and *Wastwater;* in Wales, *Bala Lake*, and *Langorse Pool*.

Windermere.—Mostly in Lancashire, studded with beautiful islands near its centre, is 10 miles long, and about 1 broad. It is stocked with a variety of fish, of which the most esteemed is char. Around are sloping hills and woods and cultivated grounds, with hills and mounts in the distance. Its depth is about 240 feet.

Derwent Lake, about 3 miles long and 1½ broad, is in the midst of the most charming scenery, with Skiddaw a little N. of it. Many islands are on its surface, from which delightful views can be had. It lies 228 feet above sea level, and has a depth of 80 feet.

Ulleswater, second in size, is 200 feet deep and 9 miles long, abounds with trout and eels, has its borders ornamented with handsome villas, and mountains in the distance. It has magnificent scenery.

Esthwaitewater is a small placid lake, about 2 miles long, has abundance of fish.

Grassmere is a small lake, with a large island used for grazing purposes, and is completely surrounded by mountains.

Rydelwater, still smaller, is about half a mile distant.

Thirlmere lies at the foot of Helvellyn, and is the most elevated of all the lakes, being 500 feet above sea level. Its depth is only about 80 feet. It is 3 miles long, and only half a mile broad.

Conistonwater is 6 miles long (Lancashire), has two small islands, and has the mountains on its western side; depth 160 feet.

Haweswater is nearly 3 miles long and half a mile broad.

Bassenthwaite has no islands, and is further from the mountains than most of the others, and is a large lake.

Buttermere is encompassed by rocky mountains.

Crummock is 3 miles long, and ¾ of a mile broad, has nice scenery and good fish, and 130 feet deep.

Loweswater is a very small beautiful lake, and of similar nature, surrounded by neat farmhouses.

Ennerdall, about 2¼ miles long, has trout in abundance.

Wastwater, about 3 miles long, is very deep (at least 300 feet), has never been known to freeze, and is surrounded by lofty mountains. The river *Irt* connects it with the Irish Sea.

Bala, the largest lake in Wales, is about 4 miles long and 1 mile broad.

Langorse Pool, in Brecknock, is about 3 miles long, and 1 broad.

Mineral Springs.—There are 38 watering-places around the coast, and 11 inland springs, viz.: Harrowgate, Scarborough, Cheltenham, Leamington, Bath, Buxton, Matlock, Tunbridge Wells, Malvern, Ilkley (Yorkshire), and Clifton.

Coast Line.—On the extreme N. and E. of Northumberland the coast is rather low and sandy, but quickly becomes bleak,

rising into rocky cliffs, culminating at *Flamborough Head*, to the height of 600 feet. About Whitby, the cliffs attain an elevation of 580 feet, and with the exception of the harbours formed by the mouths of the rivers and the small bays of *Filey* and *Bridlington*, no important opening occurs until we arrive at the *Humber*, receiving the whole surplus waters of the Yorkshire plain, together with those of the *Trent* basin. It is a fine navigable river or estuary, and consequently on its shores we meet the important ports of Hull and Grimsby. It is 38 miles long and 6 miles wide.

Proceeding southward along the the low shores of Lincolnshire, we arrive at the Wash, in shape almost rectangular, with an area of 300 square miles; shallower than the Humber, and less protected from the billows of the German Ocean, its trade is of less importance. The Witham, Welland, Nen, and Great Ouse, empty themselves into it; having for their respective ports, Boston, Spalding, Wisbeach, and King's Lynn. The shores of Norfolk are extremely low. Yarmouth roads is the only important harbour. Harwich is the only harbour on the low shores of Suffolk and Essex, along which are islands and salt marshes, this coast being broken up into creeks, islets, and peninsulas, all of which are nearly level with the spring tide.

The next estuary is the Thames mouth. The Thames is navigable for a greater distance than most other rivers, and has a greater amount of shipping than any other river in the world. The navigation of the mouth of the Thames is naturally dangerous, numerous sand banks obstructing the entrance, chiefly in the vicinity of the Nore. Mariners are now so well guided by pilots and buoys, that few accidents occur proportional to the natural impediments.

The coast of Kent has on the E. Goodwin Sands, the tops of which are dry at low water, at a few miles from the shore. On the S. E. and S., the chalk cliffs rise in height to several hundred feet. On the south coast, the lowest part is Romney Marsh, consisting of 44,000 acres reclaimed from the sea, and preserved from inundation by an artificial embankment. The highest point is Beachy Head already referred to. Southampton Water, ten miles long with its outlets, Spithead and the Solent, is a splendid navigable estuary, the great rendezvous of the British fleet. The Needles on the W. of the Isle of Wight are, as the name indicates, needle-shaped rocks. Passing Poole Bay (on one side of which is the so-called Purbeck Isle), and Weymouth Harbour, Portland Isle, connected to the mainland by *Chesil Bank*, is the most prominent physical feature on the low coast of Dorset. The coast of Devon possesses many harbours and sheltered creeks; and Cornwall is broken up by many deep bays and inlets. Plymouth Sound has been sheltered by its gigantic break-

water, constructed at great expense. Falmouth harbour is a safe retreat for vessels in stormy weather. Mounts Bay is exposed to the Atlantic swell. The *Scilly Isles*, about thirty miles off the Land's End were once supposed to be connected with the mainland; about five of them are inhabited by fishermen, farmers, and pilots, the remainder consisting of mere rocks and islets.

The entire of the western coast is marked by rugged features and elevated cliffs. The *Solway Frith* at low water is a shallow estuary, has a length of 38 miles, with a breadth of 20 miles at its entrance. The tide rises more rapidly here than in any other part of the British dominions, frequently causing injury to vessels. Morecambe Bay, a spacious inlet, though deep, and free from sandbanks, much exposed to the waves of the Irish Sea, is the next important opening. Walney Island, ten miles long and one broad, at its entrance, contains a considerable extent of moss with a low surface. Passing the estuary of the Ribble, and that of the Mersey, already described, we arrive at the estuary of the Dee, in the absence of the tide resembling a large mud pond, through which the river slowly glides. On the north of Wales no inlet occurs until we arrive at the Menai Strait, at the bottom of Beaumaris Bay, 13 miles long, and at its narrowest part only 250 yards broad, with romantic cliffs on either side. The tide rises nearly 30 feet, and it is traversed by many small vessels. Cardigan Bay, with a semi-circular curve of coast of 110 miles, has no good harbour; a strong current sweeps from south to north. On the elevated shores of Pembroke, St. Bride's Bay is 8 miles in width, and penetrates 7 miles inland. Milford Haven, with wild and precipitous cliffs on its southern shore, is considered one of the best harbours in the world, penetrates 17 miles inland, and is protected from all winds. Its spring-tide rises 25 feet.

The Bristol Channel, extending from Carmarthen Bay to the mouth of the Avon, a distance of 80 miles, is the largest estuary in the British Isles, and has a coast-line of 220 miles. Its tides rise at Bristol 40 feet, at Chepstow nearly 70 feet. The coast of Somerset is low. Barnstaple Padstow, and St. Ives are the only other bays worth mentioning, until we reach the Cape called Land's End.

Railways.—The *Great Northern* (491 miles), main line runs from London to Doncaster, passing Huntingdon, Peterborough, Grantham, and E. Retford. Its *Eastern Branches* run to Hertford, Cambridge, Spalding, Lynn Regis, Boston, Grimsby, Hull, Whitby, and Sunderland. Its *Western Branches* run to St. Albans, Dunstable, Melton Mowbray, Nottingham, Sheffield, Leeds, Manchester, Liverpool, and Bradford.

The *London and North-Western* (1,062 miles), runs to Carlisle and Holyhead, and passes Rugby, Tamworth, Stafford, Crewe (Chester, Bangor to Holyhead), Warrington, Wigan, Preston, Lancaster, Pen-

rith to Carlisle. Its *Eastern Branches* run to Cambridge, Leicester, Leeds, Stockport, Manchester, and other places; its *Western Branches* to Oxford Birmingham, Worcester, Shrewsbury, Welshpool, Newport, Hereford, and Swansea. The *North Eastern*, with its head-quarters at York, is one of the very best lines; and the "system" connects York with Hull, Scarborough, and proceeds N. as far as Berwick. The *Great Western* (1,387 miles), from London to Bristol, passes Reading, Swindon, Chippenham, and Bath. It proceeds to Yeovil and Weymouth, and through South Wales to Milford; also N. to Shrewsbury and Chester. The *South Eastern* (346 miles), runs to Croydon, Reigate, Tunbridge, Ashford, and Dover. The *Bristol* and *Exeter* (152 miles), runs through Bridgewater, and has branches to Tiverton, Weston-super-mare, and other places. The *London, Chatham*, and *Dover* (136 miles), runs through Rochester, and Canterbury to Dover. The *Midland* connects Leicester and Sheffield with the Metropolis. It also runs to Liverpool, Rugby, Cheltenham, and proceeds N. to Carlisle. The *Great Eastern* system connects Yarmouth and most of the towns of the three eastern counties. The *North British*, though chiefly a Scotch line, commences at Newcastle-on-Tyne, runs W. to Hexham, whence it proceeds N., crosses the border, proceeds through Harwick to Selkirk, where it is joined by a branch from Berwick. The *London, Brighton*, and *South Coast*, runs to Brighton and round the coast.

Education.—The four universities of Oxford, Cambridge, London, and Durham, together with numbers of great schools, including Eton, Rugby, Harrow, Winchester, Cheltenham, Marlborough, and the grammar schools, afford ample educational facilities for the higher classes. But the middle classes are very badly provided for. The several School Boards lately established make ample provision for the education of the less wealthy part of the community. Nothing, however, has so much influenced the education of the British Isles as the introduction of the system of competitive examination for the public appointments under the Government, the examination being conducted by highly qualified and impartial examiners.

MANUFACTURING INDUSTRY.

Nothing so much characterizes England as the number, variety, and superiority of her manufactures, the excellence of which is known throughout the civilized world.

The manufactures of England exceed, both in extent and variety, those of any other country. Though the three staple manufactures are those of cottons, woollens, and iron goods, yet the production of leather, pottery, glass, silk, linen, jewellery, and plated ware, also gives employment to an immense number of people. The great seat of the *cotton* manufacture, which engages upwards of half a million of people, is Manchester, and the adjoining districts of South Lancashire and Cheshire, including among many others the towns of Oldham, Bolton, Chorley, Blackburn, Burnley, Bury, Stockport, and Hyde. There are likewise extensive manufactures of cottons at Glossop (Derby) and Nottingham, the latter being chiefly noted for hosiery. The *woollen* manufacture is carried on in three extensive districts: the west riding of Yorkshire; the west of England, including parts of Wilts, Gloucester, and Somerset; and the north of Wales, including the counties of Montgomery and Denbigh. In the first district, which is engaged in the production of miscellaneous *woollen goods*, the chief centres are Leeds, Halifax, Bradford, Huddersfield, Dewsbury, and Wakefield; in the second district, almost exclusively engaged in the production of *fine cloths*, are the towns of Bradford, Trowbridge, Frome, and Stroud, with some smaller towns in their vicinity; and in the third, where *flannels* are chiefly produced, the most important seats are Welshpool, Wrexham, Llanidloes, and Newtown. *Carpets* are made in Kidderminster, Louth, Leeds, Manchester, and Wilton. The *iron* manufacture divides itself into two branches, iron smelting, or the reduction of the metal from its ore, and the manufacture of iron goods, such as hardware, machinery, etc. Among the *iron smelting* places are Merthyr Tydvil, the district of South Stafford, Rotherham, and "Cleveland." Cannon foundries are at Birmingham, Doncaster, Newcastle-on-Tyne, and Manchester. *Hardware* is principally produced at Wolverhampton, Bilston, Walsall (which is the great place for nail making), Wednesbury, and Birmingham; *cutlery* is chiefly made in Sheffield and London; *machinery*, including locomotive and other steam-engines, at London, Manchester, Newcastle, and Birmingham; and *agricultural implements and machinery* at Ipswich, Saxmundham (Suffolk), and Henley. The *leather* manufacture is of great extent, the chief seats being Northampton and Stafford, where boots and shoes are chiefly made. An enormous amount of *pottery* is produced in North Staffordshire, chiefly at Stoke, Hanley, Burslem, Lane End, Tunstall, and Etruria, while the finest porcelain is produced at Worcester and Derby. *Glass* is made at Birmingham, Newcastle, Bristol, London, and St. Helen's; the latter being the first place where plate glass was manufactured. The chief seats of the *silk* manufacture are Derby, Macclesfield, Congleton, Spitalfields (London), Leek, and Coventry—the first

famous for its hosiery,* the last for its ribbons. *Linen* is produced only to a small extent, chiefly at Barnsley and Leeds. *Jewellery* is made extensively at London, Birmingham, and Coventry; *watches* and *clocks* at London, Coventry, and Prescot (Lancashire), and *plated-goods* at Sheffield. Besides the above branches of English manufactures, there are many others of inferior importance; but the industry of *ship-building* carried on at the ports of Sunderland, Birkenhead, London, Portsmouth, Grimsby, and Plymouth gives employment to a very great number of people.

Paper is made in the outlets of London, at Great Marlow, and other places. *Hats* are made in most of the large towns—Oldham, in particular. *Pins and needles* at Redditch and Alcester, and *pins* at Birmingham and Stroud; *toys* at Birmingham, and wooden ones at Tunbridge Wells; *boot trees and lasts* at Reading; *brewing* is carried on in all the large towns, and at Burton, Salisbury, Alton, and Romford; *straw plait* at Dunstable and Luton; *buttons* at Salisbury; *oil-cloth* at Leeds; *floor-cloth* at Bristol.

AGRICULTURAL INDUSTRY.

With regard to the agricultural industry of England, the country may be divided into the *grazing*, or western division, which includes Northumberland, Cumberland, Durham, Westmoreland, York (N. and W. Ridings), Lancaster, Cheshire, Derby, Stafford, Leicester, Salop, Worcester, Hereford, Monmouth, Gloucester, Wilts, Dorset, Somerset, Devon, and Cornwall; the eastern, or *corn growing* division, includes York (E. Riding), Lincoln, Notts, Rutland, Hunts, Warwick, Northampton, Cambridge, Norfolk, Suffolk, Bedford, Bucks, Oxford, Berks, Hertford, Essex, Middlesex, Sussex, Surrey, and Kent.

The application of steam power in the cultivation of the soil is now a universal practice on all large farms; and agriculture is in many counties conducted by men of skill and enterprise, on a soil exhibiting great varieties from irreclaimable barrenness to exuberant fertility. While tillage of the best description prevails in Northumberland, grazing, with the rearing of young stock, is the favourite pursuit in Cumberland, in which, as well as in the neighbouring county, Westmoreland, great abundance of green crops, which, owing to the

* Four kinds of stockings are made; silk at Derby, cotton at Nottingham, woollen at Leicester, and worsted at Bradford.

quantity of rain that falls here, are the best in the United Kingdom. *Durham* has long been famous for its excellent breed of cattle, which, by suitable feeding, become large and profitable to the husbandman. Yorkshire, from constant care for a great number of years, now produces rich crops of wheat where dreary swamps were found some forty years ago; and in the deep loams around Pontefract the cultivation of liquorice is carried out to great perfection. The excellent cheese of the dairy counties of Cheshire, Devon, Gloucester, Derby, and Huntingdon are justly prized. The celebrated "Cheddar" cheese comes from Somerset. The cider and perry of Hereford, Worcester, and Devon form an important industry. The hop cultivation, greatest in Kent, is also carried on in Surrey, Hants, and Hereford, with great success.

Huntingdon and the E. and S. of Derby are also well cultivated, and in the latter camomile is successfully produced. The splendid sheep of Leicester are much esteemed, and excellent cheese is also produced in this county. Rutland, with a rather light soil, gives peas and beans. Northampton, with a good clay soil, is engaged in grazing and raising the best of grain crops and woad for the dyers. Worcester is particularly fertile along the Severn's banks; and Warwick produces much hay and grass from its extensive meadow lands. Bucks gives numbers of the fattest oxen to the London market, and Oxford and Bedford produce the usual grain crops, and to a certain extent pursue dairy farming. In the flat counties of Lincoln, Huntingdon, and Cambridge, tillage forms the principal industry, and along the banks of the Nen and Ouse luxuriant meadow land is found. In the north of Cambridge is the Isle of Ely, a marsh now rendered productive by the industry of man. Norfolk, in addition to the usual crops, gives saffron, mustard, flax, and hemp. Suffolk, with the driest climate in the kingdom, level in surface, has some heaths and marshes; but has excellent dairies. Hertford, richly manured from the metropolis, is very highly farmed, and has the best market, London, at hand. Essex, with extensive salt marshes along its much indented coast, produces the very best wheat; carraway, hops, and coriander, are also plants raised here. Fruit and kitchen gardens to supply London are very abundant, and very profitable. Kent is also a great agricultural county, well-known for the superior quality of its hops; it has many cherry orchards. Surrey grazes many sheep on its hills, and gives a fair tillage to its rather light soil. Sussex produces every variety of soil; grazes a good breed of cattle and sheep. Hampshire, one-half of which is pasture, one-fourth arable, and one-fourth forest and heath, is engaged in profitable pursuits. Wilts, the S. of which forms a great sheep farm, has rich meadow land along the banks of the Avon, and rich pasturage in the N. of the county.

Dorset carries on artificial irrigation to a great extent, and feeds an immense number of sheep, well known by all extensive farmers of the United Kingdom. Somerset possesses every variety of surface, and every variety of agricultural industry with the fattening of cattle of the best description, and, as already said, in making the very best cheese. Devon, occupied by the barren Dartmoor on the W., has some rich lands, particularly on the E., and along its rivers' banks, produces excellent crops, cider, and cheese. Cornwall produces much potatoes, and grazes many flocks of sheep and goats. Monmouth, a very hilly county, more Welsh than English, has numerous mules, the breed having been introduced from Spain.

COMMERCIAL INDUSTRY.

We import to the value of £40,000,000 sterling of corn and grain; *flour* from Canada and the United States, maize from the latter, *rice* from India, the United States, and the Southern States of America. *Hops* are largely exported to Australia and the United States. We import raw cotton to the value of about £50,000,000 sterling, and export the manufactured article to the value of at least eighty millions.

Wool is obtained from Australia, Tasmania, Cape Colony, Spain, (Merino), River Plate, Peru (Alpaca), Germany, and New Zealand. Hemp is largely imported from Italy, Russia, Manilla, and the East Indies. *Jute* from India, and £4,000,000 worth, principally from countries bordering on the S. of the Baltic. Raw silk is brought from China, Japan, Persia, Italy, and France. Sugar from the W. Indies (one-third of all used), Mauritius (one-twelfth of all), and Cuba; and beet-root sugar from France, the duty on all kinds being about 5½ millions sterling. Tea is brought from China and Japan, Annam, etc. Coffee from Ceylon, Mocha, E. Indies, and Guiana. Dried fruits from Smyrna and Valentia and other Mediterranean ports. *Wines.*—Sherry from Spain, port from Portugal, claret from Bordeaux, hock from the Rhine, champagne and moselle from Eastern France. We also import brandies and gin from France and Holland respectively, cheese and flowers also from Holland; timber from N. Europe, Canada, the W. Indies and Central America; besides many other articles too numerous to mention. Our exports consist chiefly of our home-made products—manufactured goods in general. Our exports and imports, however, form but a very small portion of our commercial industry, which exhibits every variety of inland trade.

Imports.—The real value of the merchandise imported into the United Kingdom in the year 1874 was £370,296,082, being a considerable increase over 1873; the imports from British possessions (1870) £64,797,650; the United States, £49,804,929; France, £37,608,043; German Empire, £15,401,946; India, £25,056,902; China, £9,624,557; Egypt, £14,116,802; from Russia, £20,560,043; Holland, £14,315,910; Belgium, £11,246,523; Australia and New Zealand, £14,075,291; British North America £8,512,789; Sweden, £6,497,967; Norway, £2,190,807; Peru, £4,881,075; Brazil, £6,131,031; Spain and the Canaries, £6,498,175; Turkey, £7,682,433. The general result is an increase over 1869 to the extent of £7,835,868.

Exports.—The value of our exports for 1874, was £240,000,000, of which £51,848,951 went to the British possessions; £11,643,139 to France: £20,371,560 to the German Empire; £935,755 to Holland and Belgium; and so on.

MAP OF ENGLAND.

Specimen of Questions to be asked by the Teacher.

1. Name the maritime counties of England and Wales, commencing at Northumberland, and going round by the eastern coast, giving the capital of each, and its position.
2. What English county is touched by 9 others? Name those others in order. (A county in Ireland is touched by 8.)
3. Name the 4 counties in a direct line from the centre of the Wash to the Bristol Channel, and the 4 from the same place to the mouth of the Dee.
4. Give the names of the 9 maritime counties of Wales, and the capital of each; with its position.
5. Enumerate the 14 English coal fields, distinguishing the 5 large ones.
6. What are the counties bordering on the Thames? Give the principal industry of each.
7. Describe the course of the Severn, the counties through which it passes, and name the most important towns on its banks.
8. Give the name and position of the most important English forests, and canals, etc., etc.
9. Name the four rivers Derwent, the four rivers Avon, four Stours, two rivers Taw, four Ouses, four Dees, and two Rothers in the United Kingdom.

SCOTLAND.

Scotland, also called North Britain, is more irregular in shape, more broken up into islands, and more deeply indented by long narrow inlets, than any other country in Europe. Its area is 31,325 square miles; it is bounded on the N. and W. by the Atlantic, on the E. by the North Sea, on the S. by the River Tweed, Cheviot Hills, Solway Frith, and Irish Sea. The North Channel on the S. W. separates it from Ireland.

Its most northern point is Dunnet Head, latitude 58° 41′; its most southern the Mull of Galloway, latitude 54° 38′; its most eastern point is Buchanness, 1° 45′ W.; and its most western, Ardnamurchan point, 6° 14′ W. longitude.

Its length from Cape Wrath to the Mull of Galloway is 270 miles; but the breadth varies from 180 to less than 30 miles.

Though Scotland is usually divided into the *Highlands* and *Lowlands*, we consider a division into *Northern*, *Middle*, and *Southern*, while it is sufficiently marked by physical features, more in accordance with a division of the industrial pursuits of the people. In the northern division the climate is rather severe, the surface hilly and mountainous, and sheep farming prevails. In the middle the principal minerals exist, and consequently there is a mixture of mining, manufacturing, and agricultural industries. In the south, the best and most successful farming in the world is carried on, consisting of cattle-rearing, dairy-farming, and an improved system of tillage.

While Scotland to a certain extent resembles England in its trade and manufactures, it differs from it in being more mountainous, possessing more lakes, and less minerals; in being surrounded by a larger number of islands, having a colder climate, and in being more sparsely populated.[o]

Capes and Headlands.—On the E. *Duncansby Head*, *Tarbet Ness*, *Kinnairds Head*, *Buchan*, *and Fife Ness*, and *St. Abb's Head*. On the S. *Burrow Head* and the *Mull of*

Galloway; on the W. the *Mull of Cantire*, *Point of Ayre* (on Arran Isle); *Ardnamurchan* and *Sleat Points* (the latter in Syke); *Butt of Lewis*, and *Barra Head*, on the N. and S. of the outward Hebrides respectively; on the N., *Cape Wrath* and *Dunnet Head*. In the Orkneys are *Marwick* and *Hoy Heads*, and *Turn Ness*.

Bays, Harbours, and Straits.—On the E. are *Sinclair Bay*, *Dornoch*, and *Moray Frith*, Friths of *Tay* and *Forth*. On the S. are the *Solway Frith*, *Wigtown*, and *Luce Bays*. On the W. are Loch *Ryan*, Frith *of Clyde*, Lochs *Fyne*, *Linnhe*, *Sounds* of *Jura*, *Mull*, *Kilbrennan*, *Sleat*, and *Islay*, the *Minch*, and *Little Minch*. On the N. is the Pentland Frith.

Islands.—Besides the three large groups of the Orkneys, Shetlands, and Hebrides, there are the isles of *May* and *Bass Rock* in the Frith of Forth; *Arran* and *Bute*, and a few smaller islands in the Frith of Clyde.

The following table gives the counties of Scotland, with the area, population, and capital of each.

SCOTLAND—THIRTY-THREE COUNTIES.

Three Northern Counties.

	County.	Area in Acres.	Population.	Capital.
1	Orkney,	400,000	31,272	Kirkwall, on Mainland.
	Shetland,	200,000	31,605	Lerwick, on Mainland.
2	Caithness,	455,708	39,989	Wick, on the Wick.
3	Sutherland,	1,297,188	23,686	Dornoch on the Dornoch Frith.

Three North-Western Counties.

4	Ross,	2,016,375		Dingwall, on Frith of Cromarty
5	Cromarty,			Cromarty, Do.
6	Inverness,	2,723,501	87,480	Inverness, on the Ness.

Five North-Eastern Counties.

7	Nairn,	131,500	10,213	Nairn, on the Nairn.
8	Elgin,	340,000	43,598	Elgin, on the Lossie.
9	Banff,	439,219	62,010	Banff, on the Deveron.
10	Aberdeen,	1,260,625	244,607	Aberdeen, on the Dee.
11	Kincardine,	252,250	34,651	Stonehaven, on the Carron.

Five East Midland Counties.

County.	Area in Acres.	Population.	Capital.
12 Forfar,	568,750	234,525	Forfar, on L. Forfar.
13 Perth,	1,814,063	127,741	Perth, on the Tay.
14 Fife,	328,427	160,310	Cupar, on the Eden.
15 Kinross,	49,812	7,208	Kinross, on L. Leven.
16 Clackmannan,	29,440	20,742	Clackmannan.

Four West Midland Counties.

17 Stirling,	295,875	98,179	Stirling, on the Forth.
18 Dumbarton,	204,800	58,839	Dumbarton, on Clyde.
19 Argyle,	2,083,126	75,635	Inverary, on L. Fyne.
20 Bute,	109,375	16,927	Rothsay, on E. of Bute

Three South-Western Counties.

21 Renfrew,	158,268	216,919	Renfrew, near the Clyde.
22 Ayr,	735,262	200,745	Ayr, on the Ayr.
23 Lanark,	568,867	765,279	Lanark, on the Clyde.

Six South-Eastern Counties.

24 Linlithgow,	81,113	41,191	Linlithgow, on the Avon
25 Edinburgh,	254,300	328,335	Edinburgh, on the Leith.
26 Haddington,	179,142	37,770	Haddington, on the Tyne.
27 Berwick,	302,951	36,774	Greenlaw, on the Black Adder.
28 Peebles,	227,869	12,314	Peebles, on the Tweed.
29 Selkirk	166,524	14,001	Selkirk, on the Ettrick.

Four Southern Counties.

30 Roxburgh	428,494	42,965	Jedburgh, on the Jed.
31 Dumfries	702,953	74,700	Dumfries, on the Nith.
32 Kirkcudbright	610,343	41,852	Kirkcudbright, on the Dee.
33 Wigtown	327,906	38,795	Wigtown, on Wigtown Bay.

The **Orkneys**, separated from the mainland by the Pentland Firth, a channel only 7 miles wide (through which a strong tide flows towards Dunnet Head), consist of 73 islands and islets, 29 of which are inhabited. Many of the others, called "holmes," are visited in the summer for pasture ground. The surface varies much, being in some places covered with heaths, with a considerable depth of peat mould, and only one-third of the whole being cultivated. The highest hill is called Wart Hill (1,550 feet), on the island of Hoy. The climate is rather cold and moist, though frost never lasts long. Oats, barley, and vegetables are raised; but fishing is an important industry. The inhabi-

tants are partly of Scotch, and partly of Norwegian descent.

Pomona or Mainland, dividing the whole group into N. and S. isles, is 25 miles long, and like the S. isles has some good harbours. It contains more than half the population. The remaining islands are *Sanda*, of great fertility; *Hoy*, 14 miles long, and 5 broad.

Kirkwall (3,434), the cap., stands on a bay on the N. of Pomona, about 40 miles from Wick. It has a cathedral, town-hall, museum, grammar-school, and a custom-house. It has an annual fair in August, continuing 14 days, and has much provision trade.

Stromness, 12 miles distant, stands on the same island, with an excellent harbour, has 3 distilleries, and is the packet station for the islands.

The **Shetland Isles**, lying about 150 miles from Buchan ness, consist of 90 islands, islets, and rocks; thirty being inhabited. The highest elevation on these islands is Roeness Hill, which has an elevation of 1,500 feet; and, indeed, the whole surface is wild and rugged, with an indented coast, the bays and creeks being called "voes." In winter, though frost and snow last but a short time, severe storms frequently arise; and it is computed 200 men are annually drowned in this group of islands. Agriculture is carried on in a very rude manner, and the fisheries constitute the staple industry. The cottages are built of mud, and peat is used for fuel, no timber existing on the islands. Oats, potatoes, and turnips, are raised in small quantities; wild fowl are abundant. Dried fish are sent to Spain and other countries, ponies to the mainland. In the extreme N., daylight at Midsummer never disappears, the sun's rays at setting one day, mingling with those of his rising the next. At midwinter, on the contrary, the sun is only five and one-third hours above the horizon, the nights being long and dreary. The climate is humid.

Mainland, the largest island, has valleys running N. and S., which are interspersed with small lakes. It contains two-thirds of the population, and is 55 miles long, with a breadth of from 3 to 10 miles.

Yell, the second in size, is about 20 miles long, and 6 broad.

Unst, the third, is 11 miles long, and 6 broad.

Lerwick, standing on the largest island, is an industrious town,

and a good fishing station. Fair Island to the S. was the scene of the wreck of Sidonia, the commander of the Armada.

The **Hebrides**, on the W., are divided into the Inner Hebrides, and the Outer Hebrides or Western Isles. They are in number about 200, of which 70 are inhabited. The *Inner* are *Skye*, *Mull*, *Islay*, *Jura*, *Coll*, *Rum*, etc.; and the *Outer* are *Barra*, *N.* and *S. Uist*, *Benbecula*, *Harris*, and *Lewis*. The large islands near the mainland partake of its rugged character, the mountains in Skye rising to an elevation of 2,500 feet; while the numerous rivers that drain them abound in salmon, trout, and eels. The climate of these islands, owing to the influence of the Gulf Stream, is mild; but the inhabitants are poor. Many cattle and sheep are reared. These islands belong to Argyle, Inverness, and Ross. Their fisheries are important. Some writers include Arran and Bute among the Hebrides.

Skye is one of the most rainy districts in Scotland. Here the night at midsummer lasts only from 10 p.m. to 1 o'clock next morning.

Stornoway (2,535), a port in Lewis (an island 60 miles long, and 30 broad), has some boat-building, and fishing.

Portree, in Skye, has a snug harbour and trade with the mainland.

Tobermory, in Mull, has boat building.

Islay, a small island, has extensive distilleries.

Caithness, with a generally level surface, has extensive peat-mosses and moorland; a ridge of hills separates this county from Sutherland, one of which, *Morven*, is 2,334 high; agriculture, fishing, and sheep-farming are the chief industries. It is drained by the river *Thurso*.

Wick (8,132), the seat of the herring fishery, is a modern town, which is frequented by fishermen from every portion of the United Kingdom.

Thurso (3,004) (*Thurso*), "Thorstown," the most northerly town in Great Britain, has fishing and weaving.

Sutherland, with a flat sandy shore, is penetrated by deep inlets, particularly on the N. and W.; while in the interior there are fine pastoral valleys, bordered by mountains or hills, one of which, Sugar Loaf, is 2,400 feet high. In the centre is Loch Shin, 18 miles long and 1 broad.

Sheep-farming is the staple industry. This county, nine-tenths of which belong to the duke, is drained by the *Shin* and *Brora*.

Dornoch (625) is the only town in the county, but it hardly deserves the name. It is the smallest cap. of a county in the United Kingdom.

Ross and Cromarty, having deeply indented shores on both seas, but more particularly on the Atlantic, are always mentioned together, because the latter is made up of ten or twelve different portions parcelled out through the northern half of the former. The surface in general is hilly and mountainous, rising in *Ben Dearig* to 3,550 feet, *Benwyvis* 3,720, and in *Clock* to 4,000 feet; but on the E. some lowlands of great fertility exist; agriculture and fishing, with a little wool-combing and dyeing, constitute the industries. *Lewis* belongs to Ross. This county is drained by the two rivers *Carron*, and the *Conan* which flows into Cromarty frith. Loch *Maree* is 18 miles long.

Dingwall (2,125), the capital of Ross, stands at the head of Cromarty Frith; has some good houses and shops, but very little trade.

Cromarty (1,476) is on a low tongue of land jutting out into the Frith, and has a good herring fishery, roperies, breweries, etc.

Fortrose (911), a small town on Beauly Firth, has salmon and sea fisheries.

Tain (1,765), on a river of same name near Firth of Dornoch has some good public buildings, and some trade.

Inverness, the largest county of Scotland lies in the North West, and includes the isles of Skye, Harris, North and S. Uist, Barra, and Benbecula. The surface is extremely mountainous, and naturally divided into two parts by the Great Glen of Scotland, called Glenmore, through which runs the Caledonian canal. The small portion of the surface not under mountain, lake, or river, is well tilled; but on the hills sheep farming prevails; much mountain is preserved for grouse shooting and deer stalking. Ben Nevis, the highest mountain in the United Kingdom, rises 4,368 feet. This county is drained by the *Spey*, *Lochy*, and *Ness*, and many small streams flowing through the

glens, bordered by mountains on either side. The scenery of Inverness is most romantic and exceedingly diversified.

Inverness (14,463), the cap. of the Highlands, stands 255 miles N.W. from Edinburgh, on the Ness, near the Moray Frith; it is large, well-built, and well-paved. It has many good public buildings, iron foundries, breweries, and woollen and plaid manufactures. The shipping is active. The climate, considering its latitude, 57° 28′ is very mild, the mean annual temperature being 46°.

Portree, on the Isle of Skye, has been mentioned.

Nairn, intersected by the *Findhorn* and *Nairn*, is hilly in the S., but level along the coast; and though the climate is cold, it has successful tillage; marl and limestone are found.

Nairn (4,220), on the river of the same name, has some coasting trade.

Elgin, bordering on the Moray Frith, is divided into two parts by a detached part of Inverness; it is, with the exception of the highlands in the extreme S., very productive. Sand hills line the shore in some parts, and cliffs crowned with the remains of Danish fortifications in others. This county is drained by the *Findhorn* in the W., the *Spey* in the E., and the *Lossie* in the centre.

Elgin (7,339), the cap., on the Lossie, was burnt by Wolf of Badenoch in 1390; by a son of one of the Lords of the Isles, 1402; and by the earl of Huntly, 1452. It has the ruins of a cathedral, once proudly called, "The Lanthorn of the North."

Forres (3,959), is near the Findhorn, and has local trade.

Banff, extending from the Moray Frith to the region of the Grampians, is hilly and mountainous, with the exception of a fertile strip of rich loam soil. Here *Cairn-gorm* rises above 4,000 feet; some of the mountain valleys are well wooded.

Banff (7,439) (*Deveron*), is well built, and has a small harbour, some fishing, and shipping trade.

Cullen (2,055) is a small seaport, with trade in linen and damask.

Portsoy (2,055) has granite and marble quarries in its neighbourhood, and is engaged in fishing. Keith (4,000) is an inland town.

Aberdeen, with about 60 miles of coast-line, has a tolerably level surface, except towards the S. W., whence the Dee and other rivers flow in an easterly direction. Here Benmacdhui rises 4,296 feet, and several other moun-

tains almost as high. Granite, slate, and limestone are the chief minerals. Turnips for fattening cattle are largely grown. This county is well farmed, tillage being carried on with skill and spirit, and the fisheries on the coast and in the rivers constitute an important industry; sheep are numerous. Timber covers one-tenth of the surface, chiefly larch and Scotch fir. It is drained by the *Dee*, the *Don*, the *Ythan*, and *Deveron* which is mostly a boundary river.

Aberdeen, consisting of New Aberdeen, on the N. side of the Dee, and Old Aberdeen, formerly called Aberdon, on the south bank of the Don, is a splendid city, noted as much for its activity in shipping, its manufacturing industry, as for its university. It has extensive commercial relations with the E. and W. Indies, N. America, the Mediterranean, and the Baltic. Extensively worked granite quarries outside the city, cotton, linen, and paper mills, iron foundries inside, together with ship-building, are the chief industries. Its public buildings consist of the university, grammar-school, etc.

Peterhead (8,535) stands on a small peninsula, near the mouth of the Ugie; has a good harbour, and its streets well laid out. Besides being much engaged in fitting out for the whale fishery in the Arctic Ocean, it is the second seat of the Scotch herring fishery.

Inverury (2,856), on the Don, has an active trade with Aberdeen and the interior of the county. **Kintore** (659), on the Don, is an ancient town with trade by the Aberdeenshire canal. **Fraserburgh** (3,300), on the N. coast, has a good fishery.

Kincardine is occupied on the W., and partly in the centre, by the Grampians, which cover about one-third of the county; the remainder, with a level soil, being well cultivated. The climate is mild, and the highlands afford good sheep pasturage, and the coasts have a good herring fishery. The *Dee*, forming for some distance the N., and the *Esk*, the S. boundary, are the chief rivers.

Stonehaven (3,400), consisting of an old and new town, united by a bridge across the Carron, has a herring fishery, brewery, distillery, and a little linen and woollen trade.

Bervie (1,013) is much engaged in fishing, and has a little corn trade.

Forfar, centrally traversed by the Valley of Strathmore, which is 33 miles long, and 6 or 8 broad, is a maritime county N. of the Firth of Tay. The Sidlaw Hills rise in the E.,

and in the N. W. are elevations connected with the Grampians. Thus four districts are distinguished:—I. the Grampians, where some peaks rise 3,000 feet; II; the Vale of Strathmore, running from S. W. to N. E.; III., the Sidlaw Hills; IV., the fertile and highly cultivated tract towards the sea. Sheep farming is carried on in the highlands, fishing on the coast; and this county is the chief seat of the linen trade of Scotland. It is drained by the N. and S. Esk.

Forfar (11,031), the capital, chiefly engaged in the linen manufacture, has some good public buildings—the town and county hall and court-house. In the town-hall is preserved a curious relic of ignorance and barbarity—"the Witches' Bridle."

Dundee (118,974), a splendid town, with capacious docks, quays, and wharves, has of late years rapidly improved. Narrow streets have been pulled down, and broad ones substituted. In addition to extensive shipping trade, whale-fishing, and ship-building, it has manufactures of coarse linen made from flax, and tow chiefly imported from the Baltic. Jute brought from India is manufactured into packing cloth, carpets, mats, sacks, and bags. Indeed, almost all the canvas for the navy is now made here. Marmalade and confectionery form an important industry, being exported to all parts of the world. Dundee has a town-hall, royal exchange, high school, custom-house, and several other splendid public buildings.

Montrose (14,548) (*S. Esk*), a grain-exporting seaport, once surrounded by walls, is a clean town, engaged in flax-spinning and weaving, and has a coasting trade, exporting salmon, stone, and agricultural produce. It is the birth-place of Joseph Hume.

Brechin (7,933) (*S. Esk*), has many public buildings, an old castle, remains of a cathedral, and some flax spinning.

Arbroath (19,974), on the coast, has manufactures of yarns, canvas, and sail-cloth, with considerable coasting trade.*

Perth, the most central, and one of the most important counties in Scotland, is divided into the highland and lowland districts. The climate is mild, and though sterile on the hills, consists of rich loam in the lowlands. This county is distinguished for its mountain, river, and lake scenery, 32,000 acres being covered with water. Some of the highest

* Twelve miles out seaward is Bell Rock (now a light-house), on which the monks of Arbroath placed a bell, which rung by the action of the waves, and warned mariners of their dangerous position.

peaks of the Grampians are found here. Lochs *Tay, Earn,* and *Rannock,* are the largest in the county, which is drained by the *Tay* and its tributaries. Deep glens, nicely wooded valleys, mountain peaks, elevated table-lands, expansive plains, combine to give most of the surface a beautiful, grand, and romantic appearance.

Perth, an ancient handsome town, surrounded with charming landscapes, was the capital of Scotland, until the murder of James I. here, in 1437, led to the transference of the Government to Edinburgh. It has many large handsome public buildings, including high, grammar, and endowed schools, and banks; it has manufactures of linen, salmon fishing, paper and corn mills, foundries, tan-yards, etc. Small vessels ply to Dundee, and some ship-building is carried on.

Culross (467) has damask-weaving, and a little trade in coal and iron. Abernethy was the capital of the *Picts,* and Callander is near the trossachs. Crieff (4,000) is a beautiful little town at the entrance of a pass in the Grampians. It has corn and oil mills, and some woollen, linen, and worsted factories. Dumblane or Dunblane, Dunkeld, and Kincardine, are small towns, the first two having once had Cathedrals.

Fife, a peninsula lying between the Friths of Tay and Forth, is one of the very best cultivated counties, producing crops of oats, wheat, barley, beans, flax, potatoes; coal, iron, and limestone are found in abundance. It is drained by the *Eden* and the *Leven.*

Cupar (5,105) (*Eden*), is a small town with linen manufactures, spinning, and quarrying.

Dunfermline (14,958) (*Lyne*), formerly contained one of the richest abbeys in Scotland, remains of which still being visible. Manufactures of fine linen, iron foundries, and breweries are the chief industries. Charles I. was born here.

Dysart (8,920) (*Fr. of Forth*), with a splendid harbour, has a little coasting trade. Burntisland (3,366) is a small town, with one of the best harbours in the Frith. Kirkaldy (12,434) (*Coast*), the birthplace of Adam Smith, has extensive floor-cloth factories. St. Andrew's (6,316) (*E. coast*), with a university, has fishing trade.

Kinross is a small inland county, hilly on the borders, but level in the interior; on the east Ben Lomond hill is 1,777 feet high. This is the smallest county in Scotland, with one exception.

Kinross (1,926) (*L. Leven*), has some manufactures of cottons, tartan shawls, and damasks. Parts of the town are badly built, but the public buildings are elegant.

Clackmannan whose surface consists of picturesque hills, which on the N. rise in the Ochill range to 2,359 feet above sea level, is also splendidly cultivated; has extensive sheep pastures; some coal and iron mines, and some productive soil near the Forth.

Alloa (9,000), with trade in ale, coal, cotton, and linen, is the largest town in the county; though the small town of *Clackmannan* (900) is the capital of this county.

Stirling, extending from the Frith of Forth to L. Lomond, contains Ben Lomond on the W., the Campsie Hills in the centre, and plains highly cultivated on the E.

Stirling (14,276) (*Forth*), on an eminence, has an old castle of much historic interest, from the walls of which twelve battle-fields can be seen. It has manufactures of carpets and shawls. It is a great railway centre. Near the town is *Bannockburn*, where Bruce defeated Edward II., in 1314.

Falkirk (9,547) is famous for its "trysts," or fairs, held 3 times every year, at which many thousand cattle are sold; and still more for its remnants of antiquity; it is in a rich agricultural district. Here, in 1298, Edward I. defeated Wallace, and here in 1746 Prince Charles, the young Pretender, defeated the English forces.

Dumbarton, lying W. and S. of Lough Lomond, and N. of the Clyde, has a diversified surface, with a climate well adapted to pasturage, and the growth of timber. Ironstone is raised in the E., and arable land is only found on the banks of the *Clyde*, and near Lough Lomond. On the banks of the river *Leven*, many bleach greens are kept.

Dumbarton (11,414), with an old castle, on a rock in the Clyde, has ship-building and iron foundries. Kirkintilloch (6,378) has cotton works, and Helensburgh (5,000) is a watering-place.

Argyle or Argyll, with about 340 miles of sea-coast, is of a most irregular shape, and a rugged and mountainous surface, much covered with moss and heath, with a wet and boisterous climate, 52,000 acres being covered with lakes

and 40,000 with plantations. The minerals are lead, copper, iron and coal, but not found in great abundance. Herring fishing is extensive in Loch Fyne, and around the islands.

Inverary (902), is a small town, with a good herring fishery.

Campbeltown (6,688), carries on a large trade in whiskey, and employs hundreds of vessels in the herring fishery.

Oban (2,400), is a favourite watering-place, whence tourists embark for the islands. Dunoon (3,749), is a fashionable bathing resort.

Arran and Bute consist of the two Islands thus named, and several smaller ones. *Bute*, with a very mild climate, has some good farming. *Arran*, with a high surface, is also well cultivated. The fisheries are important.

Rothsay, (7,800), (*Bute*), much resorted to on account of its mild climate, has good fisheries of haddock, herrings, salmon, soles, and whiting: large cotton factories, and docks for ship-building are here.

Renfrew, hilly on the W. and S., but comparatively flat on the E., is largely covered with meadows and gardens; dairy-farming is carried on to a great extent. The district of the county of Renfrew lies in close proximity to the great city of Glasgow, and partakes throughout its whole extent of the stimulus imparted from that great industrial centre.

Renfrew (4,162), the cap., near the Clyde, is a small town of little importance, with some ship-building.

Paisley (48,257) has been long celebrated for its manufacture of shawls, which, along with the printing of shawls, cotton spinning, and more especially the manufacture of sewing thread, tartans, checks, and other cloths, form the staple trade; a great industry prevails in French goods, muslins, crapes, etc. Its paper mills are widely known.

Paisley has more factories than any town of the same size in the United Kingdom.

Johnston, (8,000), a manufacturing town, is 3 miles from Paisley.

Pollockshaws, on the Cart, is an improving town with cotton manufactures, weaving, and bleaching. Good quarries are worked in the neighbourhood.

Port Glasgow (10,805) has good foreign trade; it is well-built, and the chief seat of the American timber trade.

Greenock (57,138) is an extensive seaport, much engaged in the herring and Newfoundland fisheries. Here also cordage and sail-cloth are manufactured, and ships and steamers built and equipped.

There are several cotton, woollen, and paper mills, foundries, and tanneries. Greenock is the centre of a number of towns and villages on the Clyde and the adjoining Highland lochs, between which there is daily steam communication. It has great trade with America and the E. and W. Indies, and an active coasting trade. The port has a high character for the excellence of the ships and steamers built by its carpenters and engineers; the whole of the Halifax line and several of the West India, Australian, and Mediterranean steam-ships were built here. It is the largest seat of sugar refineries in the United Kingdom, 16 being in active operation. It is the birth-place of James Watt.

Ayrshire is famed for its dairy produce and high farming. It has a rather hilly surface, but a mild climate. Its dairies, particularly in the N., whence the Dunlop cheese is obtained, are much prized. Coal and iron are abundant; lead, freestone, and some copper are also found; and the manufactures of woollens, cottons, etc., are increasing. It is drained by many small streams all flowing westward to the sea, as the *Ayr*, *Doon*, etc.

Ayr (17,851), a clean well-built town, has shipping trade and fishing; manufactures carpets, shawls, leather, woollen bonnets. It carries on trade principally in iron, coal, and grain. Though the harbour is small yet it is secure. Kilmarnock (22,952) (*Irvine*), is a flourishing, handsome town. The print-works, carpet and woollen manufactories, shoe and bonnet-making, are most extensive; there is a populous mining, manufacturing, agricultural, and commercial district around; and though the old streets are narrow, those recently erected are wide and spacious. Irvine (6,866) (*Irvine*), once had large trade, having been the port of Glasgow before Port Glasgow was built. Ardrossan (3,583) and Troon are small ports, which ship coal and iron. Salt-Coats (5,000), is a small port, much frequented for sea-bathing. Girvan (5,000) (*Girvan*), has transit trade. Troon (3,790) (*Coast*), exports coal.

Lanark, or **Clydesdale**, combines agricultural, mining, and manufacturing industries, having extensive and rich coal, iron, and lead mines. This county is naturally divided into three districts—*Upper Ward*, in the S., hilly and mountainous, is largely engaged in sheep farming Here is (among lead mines) *Leadhills*, 1,323 feet above sea level, the highest inhabited village in Scotland. *Middle*

Ward, with an undulating surface, is partly agricultural and partly mining and manufacturing. *Lower Ward*, in the N., containing Glasgow city, though small, is very important, and has arable land where moors were a few years ago. Dairy farming prevails. It is drained by the *Clyde*, with its tributary, the *Douglas*.

Lanark (5,099), the cap., stands near the "Falls of Clyde," near the middle of the course of that river.

Glasgow (477,144), the largest city of Scotland, and one of the greatest commercial marts in the world, rivals Liverpool in commerce and Manchester in manufactures. The city stands on both sides of the river Clyde, to which most of the principal streets run parallel; the houses being lofty and built of freestone. Many handsome squares and crescents may be seen, and the public buildings are superb; among which the university, cathedral, Hunterian museum, general post-office, custom-house, chamber of commerce, merchants' and trades' houses, bank-houses, city-hall, free church college, normal schools and seminaries, model-school, training-college, athenæum, and library, are the most important. Among the public monuments are, a Grecian Doric column to Sir Walter Scott, statues to Sir John Moore, James Watt, the Queen, Sir R. Peel, Wellington, Nelson, etc. *Glasgow* is admirably situated for the development of trade of all kinds. The manufacture of cotton is one of the chief industries, including calicoes, cambrics, lawns, muslins, checks, yarn, and thread. Dyeing, calico-printing, and iron manufactures, are on the most extensive scale. Sugar refining, import and export trade are most important industries. The water supply is brought from Lough Katrine, a distance of 40 miles.

Hamilton (11,496), a very handsome town on the Clyde, has a grammar school and some good public buildings. It is the seat of "imitation cambric" factories; silk veils, check shirts, and some hempen articles are made.

Airdrie (13,487) is a modern town in the midst of iron and coal mines. It has a grammar-school, and some public buildings.

Rutherglen (9,451) has print and dye works, and several collieries. It is well built, and has constant intercourse with Glasgow.

Linlithgow or W. Lothian lies on the Frith of Forth, and has a pleasingly varied surface, three-fourths of which is arable. Coal, limestone, and freestone are abundant.

Linlithgow (3,689), consists chiefly of one long street. It has the remains of a royal palace, in which Mary Queen of Scots was born.

Borrowstownness or Bo'ness (3,800), on a point of land jutting into the Frith of Forth, has a good harbour and some local trade.

Queensferry (1,521), is a small port on the Frith of Forth.

Bathgate (5,000), is a small town with manufactures of paraffin oil.

Edinburgh or Midlothian, with about 12 miles of coast-line, gradually expands in a southerly direction, rising in elevation and culminating in the Lammermuir and Pentland hills. Large tillage farms are found in the low grounds, and pasturage is carried on in the elevated districts; coal is found in the valley of the Esk, and sandstone in other places. This county is drained by the *Leith*, which flows from the Pentland hills into the sea at Leith; the *Esk*, formed near Dalkeith of two streams, enters the sea at Musselburgh.

Edinburgh (197,000), the metropolis of Scotland, stands on a group of hills, on the very highest of which is the *Old town*, in which the houses are 12 or 13 stories high, the streets narrow and irregular, with the castle 380 feet above sea level, with precipitous descents all round. The *New town* is regularly built, in the form of a parallelogram, with fine streets, crescents, and squares, unsurpassed by any modern city in beauty and regularity. The third division of the city is the *South side*, which is on rising ground, connected with the old town by three bridges. At the foot of Cannongate-street, stands the palace and abbey of Holyrood, the place where so many stirring and tragic deeds were enacted in Scottish history. This city is mainly supported by its professional classes and university; manufactures, with the exception of printing and publishing, and brewing, are few indeed. The public buildings are magnificent; including the medical halls, society-rooms, club-rooms, hospitals, asylums, assurance-offices, banks, etc. There are monuments to Sir Walter Scott, Nelson, Dr. Playfair, Burns, etc. It is 399 miles by rail from London.

Leith (44,277) is a continuation of Edinburgh, of which it is the port. It carries on an extensive trade with London, Hull, Newcastle, Rotterdam, the Mediterranean, and the Baltic. It is a grain emporium.

Musselburgh (7,506) (*Esk*), has trade in fishing, and is frequented by sea-bathers.

Portobello (5,481) with chemical works and tile-making, is also frequented as a watering-place.

Dalkeith (6,386) (*Esk*) is well-built. It has manufactures of hats, woollens, and iron, with a splendid *grain market*.

Haddington or E. Lothian, though not mountainous, has an extremely diversified surface, consisting of a series of

parallel ridges from the shore of the Frith, running E. and W. with a gradual increasing elevation; about one-third of the surface is under plantations, pastures, and wastes, the remainder being under an excellent system of tillage. The *N. Tyne* is the chief river of this county.

Haddington (4,000) is perhaps the largest corn market in Scotland. It has the remains of an old abbey. North Berwick (1,400) is a small bathing-place. Dunbar (3,815) (*Coast*), has a fair trade. Here the Scots (1296) were defeated by the English. Again, in 1650, Cromwell had a "crowning" victory over the Scotch. Prestonpans (2,000) was the scene of the defeat of the English troops in 1745.

Berwick is drained by the *Tweed*, *Lauder*, and *White Adder*; it slopes towards the E. and is touched on the N. by the Lammermuir Hills. It has a bold, rocky shore. What is called the *Merse* is a highly-farmed district, lying between the Tweed and the Lammermuir Hills. Much of the surface of this county is level, and on the slopes of the hills an immense number of sheep is fed. The climate is cold, and subject to great variations.

Greenlaw (1,000) (*Blackadder*), is a very small town.

Coldstream (2,000) (*Tweed*), gives its name to the "Coldstream Guards," raised here by General Monk, 1659.

Dunse (2,613), the largest town in the county, is the birth-place of the celebrated *Duns Scotus*, and has several good schools.

Lauder (1,046), is a small borough with a town-hall. It was often the place of meeting of the Scotch parliament.

Peebles lies S. of Midlothian; and is by the Tweed divided into two nearly equal parts. It is more elevated than any other county in the south of Scotland, Broadlaw Hill rising to an elevation of 2,700; Hartfell, 2,600; Culter Fell, 2,400; and Dunrich, 2,000 feet. Much moor and peat bog is found in the county, and the principal occupation is pastoral. It is drained by the *Tweed*.

Peebles (2,200) is a town with a grammar-school, scientific associations, various manufactories, breweries, and corn mills. It stands on the Tweed, and is a railway centre.

Innerleithin has a mineral spring of considerable repute.

Selkirk, almost entirely pastoral, has given rise to much ballad poetry. This county is hilly, particularly in the S. and W.; the highest point, Ettrick Pen, is 2,258 feet above sea level. The climate is very damp. It is drained by the *Ettrick*, whose banks are finely wooded, and highly picturesque, and the *Yarrow*.

Selkirk (4,640), an ancient town on the river Ettrick, has become the seat of a thriving woollen manufacture. Statues of Sir Walter Scott and Mungo Park adorn its streets; and the history of Sir Walter Scott, and of the poets Hogg and Wordsworth, is intimately associated with the town.

Galashiels, (9,678), on the Gala, is one of the principal seats of the woollen manufacture of Scotland; whence the term Tweeds arose.

Roxburgh, including the three pastoral districts of Tweed, Teviot, and Liddesdale, lies N. of the Cheviot Hills, and has an undulating surface with some elevated ridges properly belonging to the Cheviot range. The farming in this county is excellent. It belongs to the basin of the Tweed and is drained by that river's tributaries.

Jedburgh (3,322), on the Jed, near the Cheviot hills, has blanket, flannel, and other woollen manufactures, and an iron foundry.

Hawick (11,355), a manufacturing town, stands on the Teviot. Here are manufactories of blankets, shawls, tweeds, tartans, and leather, all in active operation.

Kelso, (4,564) a town, handsome and regularly built, near the junction of the Teviot and the Tweed, possesses a spacious market-place, said to be the finest in Scotland. It is much engaged in the shoe trade, and has a large cattle-market.

Dumfries embraces some swamps, and is greatly engaged in the rearing of stock. It is drained by the *Esk*, *Annan*, and *Nith*, from which the three districts the county are named *Eskdale*, *Annandale*, and *Nithsdale*. Several hills, including Queensberry hill (2,251 feet), rise to a considerable height, and have on their tops a stormy and cold climate.

Dumfries (15,435), the capital, is a river port with very considerable woollen manufactures, tanneries, etc., but is chiefly not

for its stock market. It has a good academy, and many other educational establishments.

Annan (3,170) is a thriving town at the mouth of the river of the same name, with some coasting trade, also cotton spinning.

Moffat (2,000) (*Annan*), in the hills, has mineral springs resembling those at Harrowgate, which are much resorted to by invalids.

Kirkcudbright, with a hilly and much diversified surface, interspersed with small lakes, contains the most southern point of Scotland. The coast, except a portion of Wigtown bay, is hilly and precipitous. Cattle and sheep are kept in great numbers; small lakes nicely fringed with wood are numerous in this and the following county. The *Cree* forms the W. boundary of the county, and the *Dee* runs through the centre. This county, with Wigtown, constitute the Stewartry of Galloway or Kirkcudbright.

Kirkcudbright (3,328), the cap., stands on the estuary of the Dee, and has imports of coal, lime, and timber. It is in the midst of delightful scenery, and has some good public buildings and a grammar school. It exports granite.

Castle Douglas (2,300) (*Dee*) is a modern and fast-improving agricultural town, regularly and neatly built.

New Galloway (440) is a small town near Loch Ken.

Wigtown, which, with Kirkcudbright, has long been known under the name of Galloway, is hilly, and consequently much engaged in pastoral pursuits. It is deeply penetrated on the S. by Luce Bay, and on the N. by Loch Ryan, both of which afford excellent fishing.

Wigtown (2,000), the cap., is an ancient town, on a bay of the same name, with a town-house, assembly-rooms, and a library.

Stranraer (5,939), at the head of Loch Ryan, has good fishing and coasting trade particularly with Ireland.

Port-Patrick (2,000) has a splendid harbour, and is connected by a submarine telegraph with Donaghadee, 21 miles distant.

Newtown Stewart (3,000) (*Cree*), is engaged in the leather trade; and Whithorn (1,577) is an unimportant place, near Burrow Head.

TOWNS IN SCOTLAND WITH ABOVE 20,000 INHABITANTS.

	Town.	County.	Population.	Industry.
1.	Glasgow,	Lanark,	477.144	Commerce and manufactures.
2.	Edinburgh,	Edinburgh,	196,500	University, book trade, etc.
3.	Dundee,	Forfar,	118,974	Coarse linen; commerce, etc.
4.	Aberdeen,	Aberdeen,	88,125	University; commerce.
5.	Greenock,	Renfrew,	57,138	Extensive commerce.
6.	Paisley,	Ditto,	48,257	Silk manufacture.
7.	Leith,	Edinburgh,	44,277	Port of Edinburgh.
8.	Perth,	Perth,	25,580	A central seat of trade.
9.	Kilmarnock,	Ayr,	22,952	Woollen manufactures.
10.	Arbroath,	Forfar,	20,000	Linen trade, etc.

Mountains.—A chain of mountains may be traced from the Cheviot hills, N., forming the boundary between Dumfries and Roxburgh; and running south of Selkirk and Peebles, is known S. of Lanark as the *Lowther* hills, but on continuing towards the N., separates the basins of the Clyde and Tweed, and continuing westward forms the eastern boundary of Ayrshire. The *Lammermuir* hills form the boundary between Haddington and Berwick. These constitute the southern mountains.

The Caledonian canal forms a natural barrier between the Northern Highlands and the Grampians; the latter forming the northern boundary of Perth, and branching northwards through the W. of Aberdeen and E. of Banff, and through the S. of Inverness. The mountains of the Northern Highlands may be traced between Caithness and Sutherland, have many elevated peaks, and running down the W. of Sutherland to Cromarty, continue their course through Ross, until they become lost in the S. of Inverness, and N.W. of Argyle.

The following are the chief peaks, with their approximate heights:—

In the Lowlands:—

Lowther Hill, 2,520, in Lanark.
Ettrick Pen, 2,200 feet.
Hart Fell, 2,635, is in Dumfries.
Cheviot Hill, 2,684, is in Roxburgh.
Goat Fell, 2,865, is in Arran Isle.
Scald Hill, 1,786.
Harper's Rig, 1,805.
Spartledown, 1,750.

In the Central Highlands:—

Hill of Sidlaw, 1,400.

Ben Ledi (with a small lake on its top), 2,863, is in Perth.
Ben Lawers, near Loch Tay, 3,945. Ben Lomond, 3,195.
Schehallion, 3,564, is also in Perth.
Ben Cruachan, 3,670, is in Argyle.
Cairntoul, 4,245, near Ben Avon.
Cairn Gorm, 4,095, is in Aberdeen.
Ben MacDhui, 4,295, is in Aberdeenshire.
Ben Nevis, near Fort William, 4,368. This is the highest mountain in the United Kingdom, and only wants 160 feet of the line of perpetual congelation.*

In the Northern Highlands:—

Ben Wyvis, in Cromarty and Ross, 3,422—Ben Clibrick, 3,153.
Ben Attow, in Ross and Inverness, 4,000.
Ben Dearg, Ross, 3,550.
Ben More, Sutherland, 3,230.

Hills.—The *Ochill* hills, S.E. of Perth, running into Fife; the *Sidlaw* hills, running from Perth into Forfar; and the *Campsie Fells*, in Stirling, are the chief.

Plains.—*Strathmore*, lying South of the Grampians, is the most extensive plain. It is 80 miles long, and under a good system of tillage. *Caithness*, which includes three-fourths of the county, is not so fertile in some places as the preceding, and contains hundreds of acres of moor. The only other plain is that of Ayr, also including most of the county of the same name, with rich pastures.

Minerals.—The mineral wealth of Scotland is by no means inconsiderable. A great coal field extends from E. to W., the centre of which may be distinguished by a line from the Frith of Tay to Girvan in Ayrshire; and here are found all the manufacturing towns, with three exceptions.

Besides the rich beds of coal between the friths of Clyde and Forth, *iron*, *lead*, and *granite*, are also abundant. *Iron* is chiefly found in Lanark, Ayr, Stirling, and Fife, where smelting furnaces are numerous. *Lead* is found in rich veins in the Lowther Hills, and also in Ayr, Clackmannan, Argyle, Peebles, and Inverness; and in most cases a little *silver* is intermixed with the ore. *Granite* quarries are numerous and valuable, producing abundance of the finest build-

* Two streaks of snow are now visible on the N. side of this peak as the excursionists pass down the Caledonian Canal, 14th September, 1871.

ing materials. The granite of Aberdeen is sent in large quantities to London, while that of Kirkcudbright supplies Liverpool. *Slate* is worked in Argyleshire, and *antimony* is found in Dumfries.

Forests.—Much of Scotland, particularly in the north, is covered with plantations, which greatly add to the natural beauty of the country. Indeed, the sides of barren hills and tops of bleak cliffs are now overgrown with Scotch fir and other trees. Remains of extensive forests are found in Ross, Glenmore, in Inverness, near Loch Rannoch and the River Spey.

Canals.—The **Forth and Clyde** connects the two Friths, and passes from the Clyde 10 miles below Glasgow, along the N. border of Lanark, passing Kirkintillock and Falkirk, and enters the Forth at Grangemouth. The whole length is 55 miles, and the depth 7 feet. The **Caledonian**, by connecting the River Ness with the Loch of same name, and the latter with Loch Lochy, and this again with Loch Eil, unites the Moray Frith with Loch Linnhe. Thousands of tourists go up and down this canal every year. The **Crinan** canal runs from the sound of Jura to Loch Fyne, and saves a sea voyage of 120 miles. The **Aberdeenshire** canal is 18½ miles long, and runs from Aberdeen to Inverury, but is now little used.

Rivers.—On the E. are the *Tweed, Eye, N. Tyne, Forth, Eden, Tay, S.* and *N. Esk, Dee, Don, Deveron, Spey, Lossie, Findhorn, Nairn, Ness, Conan,* and *Shin.*

The **Tweed** rises in Peebleshire, 1,500 feet above the sea level, in the same hill as that in which are the sources of the Clyde and Annan. It flows N. E., and after passing Peebles flows E. across Selkirk, and after forming the boundary between Berwickshire and Northumberland, enters the North Sea at Berwick. During the first 20 miles of its course the stream is exceedingly rapid, and descends 1,000 feet. The most important tributaries are the *Whiteadder, Till, Leader, Gala, Teviot, Lyne,* and *Ettrick.* The Tweed has one of the best salmon fisheries in the British Isles. Its course is 96 miles.

The **N. Tyne** is an unimportant stream crossing the N. of Haddington nearly parallel to the coast. Haddington is on its banks.

The **Forth** is formed of two streams from Ben Lomond, which unite at Aberfoyle, from which the river flows E., forms the boundary between Perth and Stirling, passes Stirling and Clackmannan, and after a course of 60 miles enters the Frith of Forth.

The **Tay**, remarkable for its rapid current, rises on the W. of Perth, passes through Loch Tay, winds through Perthshire, where it receives many tributaries, and after passing the towns of Dunkeld, Scone, and

Perth, enters the Frith of Tay, after a course of 95 miles. It is an excellent salmon river, and shoals of porpoises haunt its mouth in the fishing season. The tide rises to about 2 miles above Perth, to which the river is navigable for small vessels.

The **S.** and **N. Esk** are small rivers, running from the Grampian or rather the Clova mountains to the N. Sea, the latter forming the boundary between Forfar and Kincardine.

The **Dee** rises in the S.W. of Aberdeenshire in Ben MacDhui, with an easterly course, passes Braemar, Balmoral, and Ballater, entering the sea at Aberdeen, after a course of 90 miles.

The **Don**, rising on the borders of Banff, in Ben Avon, runs nearly parallel with the Dee, and enters the N. Sea a little more N. than the latter, after a course of 80 miles; Inverury being the only town on its banks.

The **Deveron** rises on the borders of Aberdeen and Banff, and after a N.E. course of 50 miles enters the Moray Frith at Banff.

The **Spey**, considered the most rapid river in the United Kingdom, also enters the Moray Frith. It rises in Inverness near L. Lochy, and has a N. E. course, through some of the most romantic scenery, entering the Moray Frith near Fochabers.

The **Lossie, Findhorn,** and **Nairn**, have rapid currents, and are subject to floods in their lower courses.

The **Conan**, rising in Ross, passes through Lochs Fannich and Luichart, and enters the frith of Cromarty near Dingwall.

The **Shin** rises in the mountains of Sutherland, passes through L. Shin, and enters the Frith of Dornoch.

On the W. are the *Clyde, Ayr, Doon,* and *Girvan.*

The **Clyde**, the great commercial river of Scotland, takes its rise in the Lowther Hills, in the south of Lanarkshire, and flows in a north-westerly direction nearly through the centre of that county, forming a valley or plain named Clydesdale. The only town on its banks up to Glasgow is Lanark. Beyond Glasgow the Clyde bends more to the west, forming at its mouth a large estuary named the Frith of Clyde, which separates the counties of Lanark and Renfrew from that of Dumbarton. On this estuary, on the coast of Renfrew, are the towns of Port Glasgow and Greenock. Its most important tributary is the *Douglas*. The commercial importance of the Clyde is only exceeded by that of the Thames. Numbers of vessels, both in the home and foreign trade, traverse its waters daily; and the sound of the ship-carpenter's hammer is heard for miles along its eastern banks, particularly near the town of Greenock.

The slopes of Ayrshire are drained by the *Ayr*, which rises on the borders of Lanark, crosses the county at its widest part, and after a course of 35 miles enters the sea at Ayr.

The Doon rises from several small lochs, also on the county borders, passes through Loch Doon, and enters the sea after a course of 20 miles, a little S. of the town of Ayr.

The Girvan, further S., is a river about the same size.

On the S. are the *Esk*, *Nith*, and *Dee*.

The Esk rises in the N. of Dumfries, in Ettrick Fell, and passing Langholm, enters England, and falls into the Solway Frith below Longtown.

The Nith, rising in Ayr, runs through a valley in Dumfries called Nithsdale, receiving many small streams on both sides, and with a wide estuary enters the Solway Frith below Dumfries.

The Dee rises in Loch Dee, near Ayr, and falls into Kirkcudbright bay, after forming L. Ken and passing Castle Douglas.

Lakes.—Scotland abounds in lakes, most of which have excellent fish, and many of which are justly admired for their scenery. The principal are Lochs *Lomond*, *Katrine*, *Tay*, *Rannoch*, *Earn*, *Ericht*, *Leven*, *Awe*, *Ness*, *Lochy*, *Shin*, *Doon*, and *Ken*, all of which are, properly speaking, lakes. Those lochs which are arms of the sea will be mentioned under *Coast Line*.

Loch Lomond, much admired for its scenic beauty, is 24 miles long, with a varying breadth from 5 to 1 mile, and covers 20,000 acres. It is studded with about 30 small isles, most of which, with two-thirds of the lake, belong to Dumbarton. It is surrounded by many hills, through which the mountain streams flow in deep gorges. Ben Lomond stands on its E. shore.

Katrine, a little E. of the preceding, is considered one of the most beautiful of Scottish lakes; and a little to the E. are the celebrated *Trossachs*, of wild and fantastic beauty. It is 10 miles long and 1½ broad, and while Lomond is only 250 feet deep, Katrine is 450. This loch supplies Glasgow with water.

Tay is 12 miles long, and lies in a direction from S.W. to N.E. It is surrounded by high mountains, one of which is Ben Lawers.

Rannoch is in the W. of Perth, and is a long narrow lake, an expansion of the river Tummel, amidst striking scenery.

Earn, amidst fine scenery, is an expansion of the river of the same name, which flows into the Tay at Perth.

Ericht, on the N. W. of Perthshire, is situated amidst mountains and wild moorland covered with heath; and its surplus waters pass by a river of the same name into Loch Rannoch.

Leven is in Kinross. It is of an oval shape, and contains four islands, on one of which, Castle Island, Mary Queen of Scots signed her abdication, 1568. She soon after escaped from it.

Awe, in Argyle, is 24 miles long, and from 2½ to half a mile broad, with a surface studded with islands.

Ness lies a few miles S. of the town of Inverness, is 24 miles long, bordered by hills in many places well wooded, is of great depth, and never freezes. On the E. is the celebrated *Fall of Foyers*, 277 feet high, rivalling all other waterfalls in the British Isles.

Lochy, about 12 miles further S., is 10 miles long, and 1 broad.

Shin, the largest lake in the N. Highlands, is an expansion of a river of the same name, and runs S.E. through Sutherland.

Doon, on the borders of Ayr, and Ken, in Kirkcudbright, are smaller than any of the above, but are very picturesque.

Mineral Springs.—The two chief mineral wells are at Moffat, and at the Bridge of Allen (near Stirling); besides, spas are at Peterhead, Strathpeffer, Bonnington near Edinburgh, Ballater, Innerleithen, and Crieff.

Coast Line.—The coast line, which is most irregular, is above 2,500 miles long. On the E. it resembles the E. coast of England, while on the W. it resembles the W. coast of Ireland. Berwickshire has a bold, rocky shore of no great elevation, St. Abb's head being the most prominent feature. Haddington has a coast similar in character, which rises near N. Berwick, at which is *Ben Law*, 800 feet high. The shores of the frith of Forth are low, without any particular landmarks, but ridges of hills rise in the interior. This inlet is about 50 miles long, and 5 broad between Leith and Burntisland. Passing the coast of the peninsula of Fife and St. Andrew's bay, the frith of Tay runs inland 20 miles, with a breadth varying from 1,200 yards to 3 miles. On the coast of Forfar is the small land-locked bay of Montrose. The shores of this county rise to no considerable height, and consist of a rich and productive soil. No particular physical feature marks the low coast until Buchan Ness is reached, where the land exhibits a bleak appearance, most of it consisting of wild moorland. From Fraserburgh to Fort George (the only fort of the three built on the Caledonian Canal now existing) the shore is low and uninteresting. In some places the rich arable land is almost washed by the tide, while in others rocks abound, and in other places moors exist at the very brink of the sea. The frith of Inverness is land-locked, with low shores on the E., and nicely wooded hills on the W. The frith of Cromarty is also land-locked, and penetrates 8 miles into the land. Tarbet Ness is a prominent feature, and the coast thence to Cape

Wrath exhibits no particular feature, being generally fertile near the mouths of the many streams which water these northern counties, and bleak and dreary in most other places.

On the W. the Scottish coast is for the most part hilly, and bears throughout a great similarity in character. In the summer many tourists visit this coast and the islands on account of the picturesque scenery, now so justly appreciated. The principal places of attraction are *Stroma Ferry* on Loch Carron, *Portree* in Skye, *Oban* on the mainland opposite the isle of Mull (with active coasting trade), *Inverary* on Loch Fyne, and *Rothsay* on the island of Bute. The frith of Clyde, now of so much commercial importance, is not very deep, but is a safe roadstead; some of the largest vessels having to wait at Greenock for the rising tide. Artificially it has been made navigable up to the quays at Glasgow for all coasting vessels, though the river is narrow at this point.

The coast of Scotland on the S. has been sufficiently described in treating of the counties which border upon it.

Railways.—The *Caledonian* commences at the city of Carlisle, crosses the border near Gretna, runs N. through Moffat, and, a little E. of Lanark, divides into two branches, one going N. E. to Edinburgh, the other N.W. through Glasgow, Paisley, Greenock, and ends on the coast at Wemyss bay. This line proceeds from Glasgow N. W. to Alloa, thence through Stirling, and at Dumblane again separates into two branches, one going N. W. through Callander (not yet completed), the other going through Perth, Dundee, Arbroath, Stonehaven, to Aberdeen.

The *Highland* railway runs from Perth, N. W. through Dunkeld, Nairn, Inverness, Dingwall, and Tain (not yet finished to Wick). The other lines are *South Western*, from Kilmarnock to Dumfries; the *North British*, from Berwick to Edinburgh, Aberdeen, etc.

Education.—Scotland has four Universities—Edinburgh, Glasgow, St. Andrew's, and Aberdeen; and although her system of elementary education requires modification to suit the modern requirements, she has had schools in operation for many generations on the parochial system, in which a very sound education is imparted, the course of instruction in every parish including Latin and Greek.

Manufactures.—Scotland has many important manufactures, which, from the industry and perseverance of the people, are steadily increasing.

Cotton is extensively manufactured at Glasgow and Paisley, and

to a limited extent at Kilmarnock. *Linen* of a coarse kind is manufactured at Dundee, Arbroath, and other towns in their neighbourhoods; and fine linen, including diapers and damasks, at Dunfermline and towns adjacent. *Woollens*, though not extensively manufactured, are made at Hawick (blankets, flannels, tweeds, and woollen stockings), Stirling (tartans), Bannockburn, and Kilmarnock (carpets, shawls, and tweeds) *Silk* has Paisley its principal seat (shawls). *Leather* is manufactured at Hawick and Glasgow. *Iron* is very extensively manufactured at Glasgow, Airdrie, Coatbridge, Shotts, and many other places. *Whiskey* is also an active industry, the manufacture being carried on at Campbeltown, Glasgow, and other towns. *Ale* is made in Edinburgh, Alloa, Glasgow, and most large towns. *Paraffin Oil* at Bathgate, West Calder, and other places. *Shipbuilding* is actively carried on at Greenock, Glasgow, Dundee, Leith, and Aberdeen. *Bricks* and *Tiles* are made in the neighbourhood of Glasgow, at Carstairs, etc. *Agricultural Implements* at Stirling.

Agriculture.—Generally speaking, an excellent system of farming is carried out in the southern counties of Scotland, where excellent crops are produced from a soil in many places not naturally fertile.

The most successful tillage is found in Berwick, the Lothians, Perth, and Forfar, where, for the most part, a six-year system of crop rotation is adopted. Wheat is not raised north of the Frith of Forth; but barley and oats succeed in the most northern counties. Sheep and cattle pasturage is followed on the uplands, even on the very highest hills; both the cattle and sheep are of a very small kind.

Commercial Industry.—The commercial industry of Scotland closely resembles that of England. Immense quantities of cattle, sheep, and provisions, are imported from Belfast and Londonderry; and most of the sugar used in the United Kingdom first reaches the banks of the Clyde.

Scotland exports much whiskey, ale, and confectionery; iron goods, books, and periodicals; oil, coal, and carpets; while it imports flax, hemp, and jute; raw cotton, raw silk, and cutlery. Indeed the customs' duties of its great port, Greenock, are only exceeded by those of London and Liverpool.

IRELAND.

Ireland, sometimes called *Erin, Hibernia,* and the *Green* or *Emerald Isle,* is the second largest island in Europe. It resembles Great Britain in having its E. shores tame and unbroken, with some sand banks, but very few islands. Like Great Britain, its western shores are much broken up and deeply penetrated by many fine natural harbours, the deep water of the Atlantic coming close to the land. Though Ireland has 14 large harbours capable of receiving the largest vessels, yet her commerce is only in its infancy.

Ireland is washed on three sides by the Atlantic, N., W., and S.; on the N. E., the North Channel separates it from Scotland; and on the E. the Irish Sea and St. George's Channel separate it from England and Wales.

The most northern point of Ireland, Malin Head, is 55° 21′ north latitude; the most southern point is Mizen Head, 51° 26′; the most eastern point is near the entrance to Strangford Lough, 5° 26′ W. longitude; and its most western point is Sybil Head, 10° 27′ west longitude.

Capes and Headlands.—On the E. are *Fair, Clogher, Howth, Bray,* and *Wicklow* heads; *Cahore* and *Carnsore* points; on the S. *Hook* point, *Knockadoon* head, *Roche's* point, *Old Head* of Kinsale, *Mizen* head; on the W. *Dunmore, Sybil, Kerry, Loop, Slyne, Achill, Erris,* and *Teelin* heads; and on the N. *Bloody Foreland,* and *Malin* heads.

Bays, Harbours, etc.—On the E. are *Wexford* harbour, *Dublin, Drogheda,* and *Dundalk* bays; *Carlingford, Strangford, Belfast,* and *Larne* loughs; on the S. *Waterford, Dungarvan, Youghal, Cork, Kinsale, Clonakilty, Crookhaven, Dunmanus,* and *Bantry* bays; on the W. *Kenmare, Dingle, Tralee, Liscanor, Galway, Clew,* and *Blacksod* bays, *Broad Haven, Killala, Sligo,* and *Donegal* bays; on the N. Lough *Swilly,* and Lough *Foyle.*

Islands.—On the E. are *Copeland and Lambay Isles*; on the S. the *Saltee Isles, Cove, Cape Clear and Bear* islands; on

the W. *Valentia*, the *Blasquet*, and *Arran* Isles, *Clare*, *Achill*, N. isles of *Arran*; on the N. *Inishtrahull* and *Rathlin* islands.

Ireland is 300 miles long from Fair head to Mizen head; and 170 broad from Howth head to Slyne head.

ULSTER.

Ulster, in the North, is the most industrious, most populous, and most enterprising of the Irish provinces. On the whole, the surface is mountainous and hilly, with a fertile soil in the lowlands, and a high rocky coast, particularly in Donegal and Antrim. Several lakes are found in Fermanagh, Cavan, and other counties; and *Neagh*, the largest lake in the United Kingdom, is on the borders of Tyrone and Antrim. The scenery of Donegal and Fermanagh is magnificent. Ulster is drained by the *Erne*, *Foyle*, *Bann*, and *Lagan*, with numerous other streams of less importance, and combines agricultural, manufacturing, and mining industries, the last to a very limited extent. Two districts are marked out by the course of the Bann and Lough Neagh—that to the East, the most wealthy and prosperous tract in Ireland, with Belfast as its capital, has been happily called the Irish Lancashire; that to the W. includes seven counties, and though its manufactures are few, the inhabitants are thrifty and comfortable. This province contains 9 counties.

County.	Area in Acres.	Population.	Capital.
Donegal,	1,193,443	217,992	Lifford on the Foyle.
Londonderry,	522,350	173,932	Londonderry on the Foyle.
Antrim,	745,177	396,000	Belfast on the Lagan.
Down,	612,495	281,775	Downpatrick.
Armagh,	328,076	179,221	Armagh on the Callan.
Cavan,	477,360	140,555	Cavan.
Fermanagh,	457,195	92,688	Enniskillen on the Erne.
Monaghan,	319,757	112,785	Monaghan.
Tyrone,	806,295	215,668	Omagh on the Mourne.

Donegal,* a very mountainous county, with a rugged coast line exposed to the full dash of the Atlantic, deeply indented with creeks, bays, and inlets, is the largest county in Ulster. The coast is penetrated by numerous bays, and many islands lie near it, 17 of which are inhabited. It is drained by the *Erne*, *Finn*, *Derg*, *Foyle*, and *Swilly*, and has seventy thousand acres of bog; the scenery is wild and romantic. Its most important mountain peaks are *Errigal* (2,462 feet), *Bluestack* (2,225), *Sleve Snaght* (2,020), and *Slieve League* (1,972). Marble is produced. This is a purely agricultural county, with the exception of a little linen trade.

Lifford (600) (*Foyle*), has infantry barracks, and is one of the smallest county capitals.

Ballyshannon (3,000) (*Erne*), with extensive and important salmon and eel fisheries, and some coasting trade, is the largest town in the county. The river is crossed here by a bridge of fourteen arches.

Donegal and **Killybegs** are small ports on S. coast; and **Letterkenny**, on the Swilly, is the most important town in the N. of the county.

Raphoe has a Royal School, and a little linen trade.

Londonderry,† of a triangular shape, is level along the rivers; but on the borders of Tyrone, where many secluded vales and romantic glens are found, it is mountainous. The surface on the S.E. is flat and of great fertility; but along the sea-coast the soil is more of a sandy nature. This is on the whole a good agricultural county, producing, besides cereals, abundance of flax. Five rivers water the county: the *Foyle*, *Faughan*, and *Roe*, all flowing into Lough Foyle; the *Moyola* into Lough Neagh; and *Bann*, upon which are valuable salmon and eel fisheries, into the Atlantic.

Londonderry (25,000), the capital of the county, situated on Lough Foyle, is the first CITY in Ulster, and the second town; its population is steadily increasing. It has industry in shirt-making, some of its factories employing 1,500 hands; it has also some

* Anciently belonged to the powerful clan O'Donnell, and then under the name *Kargal*, included a portion of Fermanagh.

† Anciently the country of the *Darnii*; was long known as the country of the O'Kanes, whose chief seat was in the vale of the Roe.

linen trade and a large local trade, which finds an outlet through its lines of coasting steamers. It is also a packet station for Canada and the United States. In upholstery, coach building, furniture manufacturing, boot and shoe making, and brewing are important pursuits. It has the Magee Presbyterian College, a fine structure, lately erected and richly endowed. This city was once walled, and is teeming with historic recollections. It was successfully defended against the army of James II. in 1689, having sustained a distressing siege of several months' duration.

Coleraine (6,400), *5* miles from the mouth of the Bann, is an active industrious town, with good salmon fishing. It has a national model school, several banks, and other buildings. The river admits vessels of 200 tons to come up to the town, but those of larger tonnage anchor at *Portrush*, a nice watering place a few miles E. of the mouth of the Bann.

Newtownlimavady (3,000) (*Roe*), is an industrious market town, with good trade in flax and grain.

Magherafelt (1,600), with a flax market, stands in the S. of the county; and a few miles distant is Maghera, burnt in 1641.

Antrim,* with bold and rocky promontories, is only 13 miles from the coast of Scotland. It combines agricultural and manufacturing industries to a very considerable extent. Nearly one-third of the surface is mountainous†; there is a coal mine near Fairhead, and iron mines are worked near the coast. Salt and granite are also abundant. Agriculture is well understood, and cattle rearing in the hilly districts is an important occupation. The river *Bann* forms the western boundary, the *Lagan* flows into Belfast Lough, the *Main* and *Six-mile Water* flow into Lough Neagh, and the *Bush* into the Atlantic.

Belfast (176,000) (*Lagan*), the most thriving town in Ireland, and one of the most prosperous in the United Kingdom, is a great manufacturing and commercial emporium. It is the centre of the linen and yarn trade, its mills being very numerous; and if the town be descried from an elevation, its extent and importance will be the more striking. At every corner the burr of machinery is heard—

* Anciently *Andruim*, meaning the "habitation upon the waters." The O'Neill's claimed the lordship of the county, though the old sept, M'Donnell, had extensive domains there.

† "It is geologically one of the most remarkable districts in the empire. Nearly the whole surface is occupied by basaltic rocks and other members of the trap family, originally ejected from beneath in a fluid state, and spreading over the pre-existing strata, which consists of chalk, green sand, and new red sandstone, now lying beneath them."—*Gallery of Geography.*

the "music of industry" here sends forth her Babel sounds, and dispenses contentment to a populous and thrifty community. It contains a Queen's College, one of its most elegant buildings, and a medical school of high standing in connection therewith. It has also a Presbyterian and a Wesleyan College, and many other literary establishments, including a well-attended model-school, and an academic institute of good repute. It has extensive provision-curing, ship-building, shipping, and glass-making; and, in point of fact, it ranks as one of the foremost literary and commercial towns.

Ballymena (7,900) (*Braid*), is connected by railway with all the leading towns in Ulster. It is a most extensive depôt of the linen trade; and immense quantities of pork, butter, and grain are exported. Lisburn (8,816) (*Lagan*), is a very important seat of the linen manufacture, including damask and yarn trade. Its castle was built by Lord Conway, 1610, to whom James I. "granted" this portion of O'Neill's lands. Larne (3,343) (*L. Larne*), has agricultural trade, and some steam communication with the S. of Scotland. Carrickfergus (9,212), formerly surrounded by a wall, and defended by an old castle which still remains, is a fishing station. Here William III. landed in 1690; and here Admiral Thurot landed and took the town, 1760. Ballycastle (1,700) (*Coast*), is much frequented as a watering-place: coal and iron mines are worked in the neighbourhood. Portrush (1,200) is the principal watering place of the county. About midway between them is the far-famed natural curiosity, the Giant's Causeway. Ballymoney (2,900) in the N., has some linen factories and bleach greens. Antrim (2,000) (*L. Neagh*), has a round tower. Here the insurgents were defeated in 1798. Cushendall, with hardy little ponies, and Glenarm, with some fishing, are small coast towns.

Down has an irregular surface, is hilly in the south, the Mourne mountains spreading over most of the district between Carlingford L. and Dundrum Bay. This is the most easterly county of Ireland. Strangford Lough, studded with islands, has a difficult entrance, and penetrates the county on the N.E. for some distance, forming a peninsula called the *Ards*. The industry resembles that of Antrim, but there are more bleach-greens, less factories, and a somewhat better system of tillage. The *Lagan* skirts the N.W.; the *Bann* rises in the S.; the *Newry* river together with the Newry canal, connects the navigation of Loughs Neagh and Carlingford.

Downpatrick (4,151) (*Queyle*), noted for manufacture of linen, has a small export trade by means of small vessels which discharge at the quay, one mile from the town. Here St. Patrick is said to have been buried, A.D. 493. Newry (14,213) (*Newry*), is an active town with good trade. It imports timber and other commodities, and exports provisions. Some linen trade is carried on. It is a military station. Newtownards (9,450), to the north of Strangford Lough, has very extensive weaving. Gilford (2,700) (*Bann*), in the W., has large thread factories. Hillsborough (881), Dromore (2,308) (*Lagan*), and Banbridge (5,600), are all seats of the linen trade, the first with a woollen manufactory and the last with extensive bleach-greens. The watering-places of this county are numerous: *Bangor* (2,356), *Rostrevor* (627), *Warrenpoint* (1,806), *Newcastle* (872), *Hollywood* (3,562), and *Donaghadee* (2,225).

Armagh, with fine orchards, a genial climate, and a fertile soil, is partially sheltered by the *Mourne Mountains*, and drained by the *Bann*, the *Callan*, and the *Fane*. The general surface is hilly, rising in the S., in *Slieve Gullion*, to 1,893 feet; much bog exists, but in general the soil is fertile. Black marble and lead are found in this county.

Armagh (9,500) (*Callan*), is the ecclesiastical capital of Ireland. It has a royal school, an observatory, two cathedrals, and some linen making, together with tanneries, breweries, and flour mills.

Portadown (6,660) (*Bann*), is a railway focus, rising and improving, with some linen and cambric manufactures, bleach greens, etc. It has also a good provision trade.

Lurgan (10,638), has extensive linen trade with manufactures of cambrics, and extensive bleach-greens. It has good public buildings, including churches, chapels, schools, and banks.

Bessbrook (2,215) is a manufacturing town, without a policeman or a public-house.

Keady (1,815), Tanderagee (1,240), and Richhill (725), are small market towns.

Cavan* has an undulating surface, interspersed with numbers of lakes, is mountainous on the N.W. It approaches within about 20 miles of the sea on both E. and W., in which direction the county runs. Its soil is light and

*According to Ptolemy, this county, Fermanagh, and Leitrim, were peopled by an ancient tribe called the *Ernaigh*, traces of whom remain in such words as Lough Erne. Afterwards Leitrim and Cavan were called *Bressny*, or *Bressny O'Reilly*, from the chief clan. Hence the name of such places as Dresternan.

poor, and in some parts cold. It is drained by the *Erne*, *Blackwater*, and *Cootehill* rivers.

Cavan (3,532), is a small town, with barracks, and some good shops.

Cootehill (1851) (*Cootehill*), has a flax market.

Belturbet (1,759) (*Erne*), a military station, is a small town.

Killeshandra (700) (*L. Oughter*), Bailieborough (1,240), and Kingscourt (912), are small towns, with local trade, and pretty good markets.

Fermanagh,* the distinguishing natural feature of which is Lough Erne, has great varieties of aspect, one of its mountains, *Cuilcagh*, rising 2,190 feet, while around the lake the surface is considerably depressed. The industry is exclusively agricultural, tillage and dairy farming prevailing. There is beautiful scenery, especially along the banks of Lough Erne, where it is well wooded.

Enniskillen (5,906) on an island between Upper and Lower L. Erne, is a good town, with a Royal School and a good fair. An obstinate defence was made here against the army of Queen Elizabeth in 1595, and an equally determined one against James II. in 1689.

Lowtherstown or Irvinestown (958) has active agricultural trade. Lisnaskea (857) (*L. Erne*), is an improving place with a good agricultural market.

Monaghan is a small county, in which spade husbandry is still much in use. Much of the surface is covered with peat bogs. The usual grain crops are raised, and flax is rather extensively cultivated. The *Blackwater*, flowing into Lough Neagh, and some small streams which flow into Lough Erne, drain this county.

Monaghan (3,760) (*Ulster Canal* and *River Blackwater*), has agricultural trade, several banks, a diocesan and a model school.

Clones (2,190), one of the largest railway centres, has an active trade in agricultural produce, and is a good market and commercial town. It has a round tower, and was once the seat of an abbey.

Carrickmacross (2,017), Ballybay (1,714), and Castleblayney (1,809), are small market towns.

Tyrone,† centrally situated in Ulster, has a very diversified surface, mountainous in several parts, boggy

* One-tenth of the county is under water, and one-third bog and mountain.

† Long the headquarters of the powerful and turbulent sept O'Neill, one of whom united with Roderic O'Connor in trying to drive the English out of Dublin soon

about the centre. Husbandry has greatly improved in recent years, and in some places a productive soil renders it remunerative. Coal and limestone are found.

Omagh (3,661) (*Strule*), is a fine industrious town, with good public buildings. **Dungannon** (3,900), stands in the E. of the county. It has an active trade, a tape factory, and a Royal School. Here the volunteers met, 1782, and demanded the independence of the Irish Parliament. **Strabane** (4,309) (*Mourne*), a large town, has an excellent market. **Cookstown** (3,501) (*Ballinderry*), has a flax market. **Aughnacloy** (1,465), **Fintona** (1,338), and **Newtown Stewart** (1,159) (*Strule*), have weekly markets.

LEINSTER.

Leinster, in the E., containing twelve counties, is, comparatively speaking, a level province with a low sandy coast-line of 180 miles, containing few natural harbours, but fairly sheltered from the prevailing winds. The soil is in general very productive, admirable and extensive pastures existing in several counties, and splendid grain crops being also produced. The *Bog of Allen* is the principal physical feature. The occupation of the people is almost exclusively agricultural. Four districts may be distinguished in this province. The First includes Wicklow and Wexford in the S.E., remarkable, particularly in the former county, for the "loveliness and sublimity" of the landscape. The Second includes the level country included under the Barrow valley, including Carlow, parts of Kildare, and Kilkenny. The Third division stretches to the Shannon, and includes the "Bog of Allen," with a barren and uninviting appearance. The Fourth includes Westmeath and Meath, with their superb pastures.

after their landing; another was the abettor of Robert Bruce in his attempt on Ireland; a third seized on Antrim and Down in 1333, which was held for nearly 300 years

Hugh O'Neill, called the Lame, after submitting to Henry VIII., was presented by him with a golden collar, and made Earl of Tyrone. On his death his illegitimate son, John, seized on the chieftaincy, and long kept up a desultory warfare against the English, until he was assassinated by M'Donnell, the leader of the Scots, to whom he went for protection. Another Hugh, in 1597, had all Ulster except the forts. It was he who foiled the unfortunate Essex; but he was brought to submission a few years later by Mountjoy, and early in the reign of James I. his estates were confiscated.

County.	Area in Acres.	Population.	Capital.
Louth,	201,434	69,809	Dundalk on Dundalk Bay.
Meath,	579,399	94,480	Trim on the Boyne.
Dublin,	222,709	405,625	Dublin on the Liffey.
Wicklow,	500,178	78,509	Wicklow.
Wexford,	576,616	132,506	Wexford on the Slaney.
Kilkenny,	493,985	109,302	Kilkenny on the Nore.
Carlow,	221,342	51,472	Carlow on the Barrow.
Kildare,	418,436	84,198	Naas.
Queen's County,	424,854	77,071	Maryborough on the Triogue.
King's County,	493,985	75,781	Tullamore.
Westmeath,	453,468	78,416	Mullingar.
Longford,	269,409	64,408	Longford on the Camlin.

Louth,* the smallest county of Ireland, is separated from Down by Carlingford Lough, and from Meath by the Boyne, has a level surface, except in the W., where it is hilly. It is drained by the *Dee* and the *Fane*. It is, on the whole, a good agricultural and pastoral county, but much land along the coast is low, flat, and marshy.

Dundalk† (11,327) (*Bay*), is a port on the bay of the same name, with a shallow harbour. It has extensive railway trade, a large distillery, some breweries, etc.

Drogheda‡ (13,500) (*Boyne*), is a historic town, with an antiquated aspect. The port is favourable for a considerable commerce and coasting trade. A large trade is carried on in butter. It exports corn, cattle, etc., steamboats trading to Liverpool. It has linen and cotton factories, corn-mills, salt-works, breweries, tanneries, and soap-works, with a very improving trade.

* The ancient *Oriel*, or *Uriel*, included this county, part of Meath, Monaghan, and Armagh, and was conquered by De Courcy in 1183. It was ravaged by the Scots under Edward Bruce, who was defeated and slain at Dundalk, 1318.

† In 1177, John de Courcy, an English knight, marched here from Dublin with 320 soldiers, defeated the natives, and established his residence in the town.

‡ Here Poyning's law, the object of which was to protect the nation from, and to maintain the royal supremacy over, the turbulent lords of the *Pale*, was passed 1495. This town was taken by Cromwell, and its people put to the sword 1649.

Carlingford (971), with an old castle, produces excellent oysters.

Meath,* one of the richest grazing counties, lies within the great central plain, has a soil of rich loam on a limestone subsoil, which, when well cultivated, gives luxuriant crops. It is drained by the *Boyne* and *Blackwater*, which unite at Navan. The surface is perfectly level, the only hill being *Tara*. It has ten miles of coast line, but no harbour.

Trim (2,195) (*Boyne*), is a small town (once walled), with "King John's Castle," which covers 2 acres, and is a fine specimen of Anglo-Norman architecture.

Navan (4,104) (*Boyne* and *Blackwater*), has corn and paper mills and sacking manufactories, and a good cattle market; its exports of corn are considerable.

Kells (3,000) (*Blackwater*), is a very ancient town. It has a market well supplied with grain, butter, fowl, and vegetables. It has an old castle, erected in 1118, which has some historical reminiscences.

Oldcastle (911), in the N.W., has an excellent elementary school.

Dublin,† the metropolitan county, is studded with villas and mansions, particularly on the S. side of the river Liffey, the residences of judges, merchants, and the higher government officers. Dublin Bay, a large sheet of water, lies S. of the Hill of Howth, and is admired for its beauty. The S. of the county is mountainous, rising to nearly 2,000 feet; but the other parts are mostly level, productive, and well farmed. It is watered by the *Liffey*, *Tolka*, *Dodder*, and other streams.

Dublin‡ (245,722) (*Liffey*), 334 *m.* N.W. from London, is a splendid city, with magnificent public buildings, some fine squares, and many good streets, which are kept in a disgracefully filthy condition. It has lately far extended towards the south, where many tasteful suburban residences have been erected. The shipping, having considerably increased in recent years, is very extensive, consisting chiefly in importing grain and manufactured goods; and exporting provisions,

* Formed with Westmeath, one of the five kingdoms into which Ireland was divided. The state assembly met on the hill of *Tara* every three years, up to the end of the sixth century. At this place, in 980, the Danes were defeated. Henry II. gave this county to Hugh De Lacy.

† This county was formed by King John, 1210, and included the present county Wicklow: that part north of the Liffey had previously belonged to Meath.

‡ The origin of the name Dublin is involved in much obscurity.

whiskey, porter, beer, and cattle; but the harbour is rather shallow. Amongst the public buildings may be mentioned the Bank of Ireland (formerly the Irish Parliament House), the Custom House. Four Courts, College, and many fine banks, insurance and other offices. There is a monument to Nelson, and statues to Goldsmith, Burke, Grattan, O'Connell, and others. The Park, on the W. of the city, is one of the finest in the world. Dublin Castle, the official residence of the Lord Lieutenant, is filled with government offices, and is said to have been greatly repaired (if not first built) by King John. In brewing, distilling, manufactures of tabinets and lace this city does an average trade.

Rathmines and Rathgar (20,645) are fast rising suburbs on the S. of the city, consisting of many newly-erected houses.

Kingstown (16,387), called Dunleary until visited by Geo. IV. in 1821, on the coast, with a deep harbour, is the chief packet station for England. It is the residence of many of the wealthier inhabitants of Dublin, and is a good fishing station.

Blackrock (7,998) stands in a healthy position on rising ground on the S. coast of Dublin Bay.

Dalkey (2,591) has lately become a favourite marine residence.

Clontarf (3,442) is a suburb on the N. of the bay.

Howth (952) an old town, contains the best herring fishery in Ireland. It is a healthy summer retreat for bathers. **Balbriggan** (2,332), the seat of the Irish hosiery trade, is a small port in the N. of the county, with brick and tile making. **Swords** (1,008) with a round tower, 75 ft. high, can boast of great antiquity. It has many interesting remains, and a well-endowed school. The Irish parliament once held a session here, when the plague was raging in the capital. **Skerries** (2,236) and **Malahide** (653) are small towns on the E. coast,* frequented for sea-bathing during the summer months.

Wicklow is well known as a most delightful county, whose scenery consists in mountain, glen, vale, dale, and waterfall. The mountain peaks are naked, but the sides woody, and greatly intersected by romantic glens and valleys. On the E. the lowlands have a dry climate, and a productive soil. It is drained by the *Oroca* and *Dargle*, and contains the sources of the *Liffey* and *Slancy*. Its minerals, including copper, lead, and sulphur, are important. Lough *Dan*, the largest lake in the county, is resorted to for trout-fishing.

Wicklow (3,448), a port at the mouth of the Vartry, is resorted to for sea-bathing, and exports corn and copper ore.

* Malahide Castle, a noble pile, was stormed by Cromwell. It is the seat of the Talbots since Henry II. came to Ireland, 1172.

Arklow (5,178) (*Ovoca*), exports minerals, and has a fine herring fishery, though a very bad harbour. The insurgents, who had advanced from Wexford, were here defeated in 1798.

Bray (6,087) (*Dargle*), is the most fashionable watering-place in Ireland, and a fast rising beautiful town.

Blessington (460) (*Liffey*), Enniskerry (381), and Baltinglass (1,241) (*Slaney*), are neat inland towns. Rathdrum (929) (*Ovoca*), has agricultural trade. It is surrounded by exquisite scenery.

Wexford* is level on the E. and hilly in W., and along the coast sand banks are numerous, which render navigation dangerous. With a productive stiff clay soil, it produces more beans and peas than all the other counties together: besides, it yields the usual grain crops. It is drained by the *Slaney*, which traverses it from N.W. to S.E.; and by the *Barrow*, forming its boundary on the W.

Wexford (12,000) (*Slaney*), has a large shallow harbour; carries on an inland trade by the river, and an export trade to Liverpool and Bristol, exporting grain, provisions, cattle, and poultry. The manufacture of malt is very extensive, and the fishing is good. Cromwell took it by storm in 1649.

Enniscorthy (5,804) (*Slaney*), has a large traffic in corn. A battle was fought here in 1798. Near is Vinegar Hill, the insurgent camp in the rebellion of 1798. New Ross (6,772) (*Barrow*), has good export trade, a good wool market, and active commercial industry. Newtownbarry (1,014) (*Slaney*), has some agricultural trade; and Ferns (568) (*Bann*) is in a picturesque position. Gorey (2,639) was also the scene of an engagement in 1698.

Kilkenny has, generally speaking, a level surface, with the exception of ridges of hills, which rise in the N. to above 1,000 feet. It is pretty rich in coal and black marble. This is, perhaps, the best county in Ireland for wheat, and its soil is light and loamy. It is drained by the *Nore*, with its tributaries, the *King's River* and *Dinan*.

Kilkenny (12,710), a city, parliamentary borough, assize, and market town, is one of the pleasantest inland towns of Ireland. Coal and marble are raised in the neighbourhood; the former is sulphureous, and burns without smoke or flame; the latter, which is black, is much used for chimney-pieces. An extensive trade is done in butter, bacon,

* Before the arrival of the Danes, Wexford was known by the name of *Corteigh*, "the Maritime Country," which seems to enter into the word Enniscorthy.

and corn, and there are distilleries, breweries, tanneries, and flour mills. The city stands picturesquely on the Nore, and has a splendid castle of the Ormond family.

Thomastown (1,202) (*Nore*), though in a favourable situation, has very little trade. Callan (2,387) (*King's River*), was once walled, and the seat of an abbey richly endowed. It has some agricultural trade. Castlecomer (1,321) (*Dinan*), is a well built town, with agricultural trade. Near are the principal collieries of this county.

Carlow is a well-cultivated county, with a level surface in the centre. That portion adjoining Wicklow, and that W. of the Barrow, are hilly. This is a purely agricultural county; and exports an immense number of pigs and poultry to Liverpool and Bristol. It is watered by the rivers *Barrow* and *Slaney*. Onions are extensively cultivated.

Carlow (6,798) (*Barrow*), is a municipal town, which rose round a castle built here about A.D. 1200. The trade in butter, corn, cattle, and bacon is very considerable. The flour mills are, perhaps, the largest in the kingdom. The district around is one of the most fertile and beautiful in Ireland.

Tullow (2,148) (*Slaney*), is an improving town, with an excellent retail trade. Leighlinbridge (1,066) (*Barrow*), is a small market town. Bagnalstown (2,309) (*Barrow*), an important market town, stands pleasantly a few miles to the south.

Kildare is the flattest county of Ireland, the only important elevation being Rathcoole hills, a continuation of the Dublin mountains. In the centre there is a table land, forming the watershed between the Barrow and Liffey. The *Curragh*, on which is the camp, occupies about 5,000 acres, and is a fair sheep-walk, with a race-course near the centre This county is drained by the *Slaney*, *Liffey*, and *Barrow*. It is traversed by both Royal and Grand Canals, and has good railway communication between the large towns.

Naas (2,660) has considerable trade with Dublin and the surrounding districts. Here occurred the first sanguinary collision between the King's troops and the insurgents of 1798, the former being victorious.

Athy (4,510) (*Barrow*), is an active town with corn mills and a good grain and fowl market.

Newbridge (3,286) (*Liffey*), is the nearest town to the Curragh camp, and the well known race-course of Punchestown.

Kildare (1,336) is a neat town, with agricultural trade and many

interesting antiquities, including one of the round towers. In dry seasons it suffers much for want of water.

Maynooth (1,414) in the N. of the county, is distinguished for the Royal College of St. Patrick, founded by Pitt, in 1795, for the education of the Roman Catholic priesthood. Near is the exquisite residence of the Duke of Leinster.

Queen's County is mountainous in the N. and W., and in the remaining parts diversified with hill and dale. Green crops are extensively raised, and dairies are pretty numerous. This county is pre-eminent for barley. It is drained by the *Nore* and *Barrow*. Bogs are numerous in the centre, and the *Slieve Bloom* mountains form its western boundary. In the S.E. the *Dysart* hills rise to 781 feet, and as they proceed southward they attain an elevation much higher.

Maryborough (3,000) is situated in a charming and highly interesting country, and has the usual county buildings.

Portarlington (2,424) (*Barrow*), is a town with good schools, in one of which the late Duke of Wellington was educated. It has a very good horse and cattle fair. Mountmellick (3,316) (near the *Barrow*), has a woollen factory and a brewery. It is the residence of many Quakers. Abbeyleix (1,247) (*Nore*) is a clean nicely-built town. Mountrath (1,916) is a market town, with some local trade.

King's County is divided by a series of low hills, running N.E., and separating the N. of the county into two declivities, one on the E., the other W. This district is well cultivated, but on the S. extends the *Bog of Allen*, a semi-barren tract, the highest part of which is 286 feet above sea level. Agriculture is the principal industry. The *Brosna* and *Cladagh* are the chief rivers. The Grand Canal crosses the county from E. to W., dividing it into two almost equal parts.

Tullamore (5,000) stands on the Grand Canal, and possesses a large trade. It has two breweries, a distillery, and some factories of bricks, tobacco, and snuff, with much agricultural trade.

Parsonstown (4,939) (*Brosna*), one of the most fashionable inland towns, is commodious and well-built, and has barracks for the accommodation of 500 men. At *Birr Castle* is Lord Ross's celebrated telescope, a wonderful achievement of modern science.

Banagher (1,206) (*Shannon*), with a fine horse fair, exports corn and provisions.

Philipstown (820) (*Grand Canal*), stands in the midst of extensive bogs.

Edenderry (1,873), near the Grand Canal, is a neat town.

Westmeath is a flattish county, with an undulating surface, interspersed with large lakes and bogs. It is drained by the *Shannon*, with its tributaries, the *Inny* and *Upper Brosna*. It is a good grazing district, and exports fat cattle.

Mullingar (5,800) is almost surrounded by the Royal Canal. It is a military station, an emporium for wool, and is noted for a horse and cattle fair. The environs are pleasing, and diversified with romantic views.

Athlone (5,748) (*Shannon*), a little below L. Ree, was attacked and taken by Ginkle in 1691. It is a military depôt, containing two magazines, an ordnance store, an armoury for 15,000 stand of arms, and barracks to accommodate 900 men. A brisk trade is carried on by steamers on the river, and by the railways. It has breweries, distilleries, flour mills, and some agricultural trade.

Castlepollard (932), Moate (1,531), and Kilbeggan (1,145) (*Brosna*), are small towns of little importance.

Longford, in the extreme N.W. of Leinster, bordering on the Shannon, is also a good pasture county, with a level surface, containing much valuable bog. Two industries prevail, tillage and grazing, with a little dairy farming. The general slope of this county is W. and S.W. towards the Shannon. Some iron, coal, lead, and marble have been found, but in so small quantities as to be almost valueless.

Longford (4,375) (*Camlin*), well built, with a good inland market, is a military station. It stands on the *Royal Canal*, by which it has been very much improved.

Granard (1,811), a market town, has agricultural trade.

Edgeworthstown (1,136), the birth-place of the novelist, Miss Edgworth, is a small town of little importance.

Ballymahon (914) (*Inny*), is a small town in which Goldsmith spent much of his early life.

MUNSTER.

Munster, in the South, containing six counties, has 450 miles of sea coast, with nine or ten magnificent natural harbours. Its lakes and bogs are neither so numerous nor so extensive as those of the other provinces. Several mountains rise to a considerable elevation, and the valleys form rich pasture land. The scenery of Killarney and Glengariff has been universally praised. The industries consist of dairy farming, tillage, and around the coast fishing. Three divisions of this province suggest themselves: I. The undulating plain which includes the greater part of Limerick and Tipperary, including the justly celebrated Golden Vale. II. The district from Waterford to Clonmel, and the E. part of Cork, containing fertile valleys and ridges of hills. III. W. Cork and Kerry, with mountain chains, hill gorges, and romantic scenery in many places.

County.	Area in Acres.	Population.	Capital.
Waterford,	461,553	122,825	Waterford on the Suir.
Cork,	1,846,334	516,017	Cork on the Lee.
Kerry,	1,186,126	196,014	Tralee on Tralee Bay.
Limerick,	680,842	191,313	Limerick on the Shannon.
Tipperary,	1,061,740	216,210	Clonmel on the Suir.
Clare,	827,994	147,994	Ennis on the Fergus.

Waterford is low and marshy to the E., but mountainous towards the N. W., where the *Knockmeildown* hills rise to 2,700 feet. Three bays are on the E., Tramore, Ardmore, and Dungarvan, all very good for fishing. It has a valuable copper mine at *Bonmahon*, and limestone quarries near *Cappoquin*; but its chief industry is agriculture. The *Suir* and *Blackwater* drain this county.

Waterford (23,506), the cap., stands on the Suir, 15 miles from the sea, has extensive quays, flour mills, foundries, breweries, etc. It

exports agricultural produce and salmon extensively to Bristol. Its harbour is about 8 miles long, and vessels of 1,500 tons can discharge at the quay. It has a few good public buildings, including banks, schools, churches, etc.

Lismore* (1,946) (*Blackwater*) has a splendid castle, the seat of the Duke of Devonshire. It has a good salmon fishery, and a canal connects the town with the navigable part of the river.

Portlaw (3,774) (*Suir*), with linen and cotton factories, is the most manufacturing town in the province.

Dungarvan (6,520), a town with some coasting trade, is a military station, built at the mouth of the small river Colligan.

Cappoquin (1,526) (*Blackwater*), is an old town of little importance.

Cork, the largest county in Ireland, exhibits every variety of surface and soil, abounds with large rivers, and fine harbours indent its coast. In the N. and E. there is great fertility; the W. is mountainous, and the centre hilly. It is a splendid dairy and agricultural county, and has some mining. Three rivers running eastward nearly parallel to each other, drain this county: viz., *Blackwater*, *Lee*, and *Bandon*.

Cork (78,662) (*Lee*), is the third town in Ireland. A few years ago it ranked next to the metropolis in size and commerce, but lately Belfast has grown far ahead of it. It is the capital of Munster, and its markets regulate those of the southern counties; provisions, grain, and potatoes are largely exported; it is also the best butter market in Ireland; provision curing is actively prosecuted; its glass and leather manufactures are extensive, and also that of whiskey, beer, and snuff. It has one of the finest harbours in the kingdom, and is a government naval depôt. It also contains one of the Queen's Colleges, a neat structure, attended by a great number of students.

Queenstown (10,340) is on the side of a hill on the bay's brink, a summer residence of the wealthier inhabitants of Cork. It was formerly called *Cove*, and received its present name from the Queen's visit in 1849.

Youghal (6,081) (*Blackwater*), a very old town on a spacious bay, was incorporated by King John in 1209, plundered by the Earl of Desmond in 1579, and in 1649 Cromwell made it for a time his headquarters. Sir Walter Raleigh lived here, and introduced the potato and tobacco plants. It has a good salmon fishery.

* *Lis*, a fort, and *more*, great or large.

Bandon (6,131) (*Bandon*) has frieze and cloth making, together with a distillery, some breweries, and flour mills. Kinsale (6,404) (*Kinsale Hr.*), at the mouth of the Bandon, is an active little port, with good fishing. It was taken by Marlborough in 1690 after a few days' siege. Bantry (2,421), on a bay of same name, is a fishing town, with a good harbour. At *Berehaven* in this district copper mines are worked. Mallow (4,165) (*Blackwater*), has good agricultural trade. It contains many fine public buildings and has mineral springs. Fermoy (7,388) (*Blackwater*) a military station, is regularly laid out, and has good public buildings. Dunmanway (2,044) (*Bandon*) is surrounded by hills. It has considerable agricultural trade. Skibbereen (3,694) (*Ilen*), a brisk, thriving town, in the centre of a fertile country, is a good corn mart, surrounded by a number of small towns, much resorted to in the summer as bathing-places; amongst which, for their picturesque scenery, *Glandore* (322), *Skull* (355), and *Castletownsend* (1,000), may be named. Charleville (2,479), Clonakilty (1,235), Kanturk (2,349), Macroom (3,193) (*Lee*), are engaged in agricultural trade. Midleton (3,603) has an onion fair.

Kerry has a surface formed of mountain ranges with deep valleys between; a subsoil of slate and red sandstone. Copper and lead, in small quantities, are found. The chief industries are dairy farming, tillage, and fishing. This county is drained by the *Feale* in the N., the *Maine* and *Laune*, which flow into Dingle Bay, the last-named draining the celebrated "Lakes of Killarney." Much rain falls near the coast.

Tralee (9,500) is a good town, and contains the usual county buildings. It exports grain and flour.

Killarney (5,195) (*Laune*) is kept up by tourists who resort thither in the summer months from all parts of the world. It has a cathedral.

Listowel (2,399) (*Feale*), in the N. of the county, has agricultural trade. Dingle (2,117) (*Dingle Hr.*), the most western town in Ireland, is a fishing station.

Limerick is a pretty level county, sloping from the heights of Tipperary towards the Shannon. It contains most of the *Golden Vale*, a district of extraordinary productiveness. Some of the very richest pastures in Ireland are in this county, and dairy farming is a staple industry. It is drained chiefly by the *Mulkerne*, *Maigue*, and *Deel*.

Limerick (39,000) (*Shannon*), is the principal seaport of the south-

west. Like many other towns, it has declined of late. Its trade chiefly consists in the curing of provisions, and in the manufacture of tobacco and snuff. In the 9th century the Danes took this town. It was besieged by Ireton, son-in-law of Cromwell, in 1651, where he died of the plague. It was the scene of a treaty in 1691, between Ginkle and Sarsfield, when most of the army of the latter went over to France.* There are salmon fisheries and brush factories here.

Rathkeale (2,517) (*Deel*), has good cattle fairs. It has the ruins of a castle and a priory. Newcastle West (2,112) (*Arra*), has also a good cattle market. Askeaton (1,353) (*Deel*), with old ruins, has a grain market. The river admits small vessels up to the town. Glin (883) has an active trade in salmon; and Foynes is the port of Limerick.

Tipperary is of an irregular form, and is bordered by eight other counties. It is mountainous in some parts, but fertile and productive in others. The centre is a plain of rich pasture land, drained by the *Suir*. Coal mines are worked at New Birmingham. The *Brosna* and *Nenagh* rivers join the Shannon.

The principal mountains are:—*Arra*, on the borders of the Shannon, S. of Lough Derg, *Slievenamon* in the S.E., the *Galty* and *Knockmeildown* in the S., and the *Silver Mines* and *Keeper* mountains in the W. The county consists of the North and South Ridings.

Clommel (10,508) (*Suir*), "Vale of Honey," has active trade with Waterford in provisions. It is nicely situated in the midst of a fertile district, and the river, which is crossed by three bridges, is navigable up to its quays. It was besieged and taken by Cromwell in 1650. It has flour-mills, tanyards, &c.

Nenagh (5,531) (*Nenagh*), the assize town of the N. Riding, has an active trade in farm produce, a good market, etc.

Cahir (2,694) (*Suir*), is a nicely built town, with military barracks and flour mills.

Tipperary (5,638), a market town, has lately become a great centre of trade, and has a good corn and butter market.

Cashel (4,562), commanding an extensive view, stands on a rock.

*The parliament refused to ratify Ginkle's treaty, and hence the expression, "The city of the violated treaty."

Though the residence of the ancient kings of Munster, it is a town of little industrial importance, but it contains many interesting ruins.

Roscrea (3,160), has an extensive trade in corn, also in brewing, distilling, tanning, and also in coarse woollens.

Thurles (5,000) (*Suir*), is an active town with a good corn market. It has numerous ruins of ecclesiastical and mediæval buildings, and contains many educational establishments.

Templemore (3,500) (*Suir*), is a military station, in the midst of ruins of many old castles, in the centre of a nice country.

Carrick (8,055) (*Suir*), has an excellent manufactory of woollen cloth. It ships considerable quantities of agricultural produce.

Clare has a rocky coast, indented with numerous bays. Its surface consists of a plain in the centre, with mountains for the most part skirting its boundaries; lakes are numerous; some lead mines are worked, and excellent slates are found. Oyster beds abound along a portion of the coast, and good salmon fisheries are in its rivers, which are the *Fergus*, *Forset*, &c.

Ennis (6,494) (*Fergus*), with some flour mills, etc., has *Clare*, a village two miles further down, for its port. Ennis is badly built.

Kilrush (4,400), with fisheries, and a good harbour, has trade in corn, and a manufactory of coarse cloth.

Killaloe (1,207) (*Shannon*), possesses valuable slate quarries. It has a cathedral, first erected in 1160.

Kilkee (1,605) (*Atlantic*), is a charming little watering place.

CONNAUGHT.

Connaught, on the West, where the Irish language is still much spoken, abounds with the most beautiful diversity of surface, mountain, hill, river, lake, and woodland. The climate is moist, and rain is more frequent than in any of the other provinces. Besides containing one of the coal fields, it has abundance of marble and granite. It is much less advanced in agricultural improvements than Leinster. It is naturally divided—by a series of lakes and bogs running from Killala Bay to Galway—into E. and W.; the former pretty flat, with hills skirting the plains, includes rich pastures in Roscommon and bleak plains in Galway; the latter hilly and mountainous, and presenting scenery only surpassed by Killarney, is on the coast indented by many good natural harbours. This province has five counties.

County.	Area in Acres.	Population.	Capital.
Galway,	1,566,354	248,257	Galway on the Corrib.
Mayo,	1,363 882	245,855	Castlebar.
Sligo,	461,753	115,311	Sligo on Sligobay
Leitrim,	392,363	95,324	Carrick on th Shannon.
Roscommon,	607,690	70,153	Roscommon on the Haid.

Galway is divided by Lough Corrib into East and West districts, the latter being rugged and mountainous, the former boggy, yet arable. *Connemara*, in the west, is picturesque (the Twelve Pins rising a considerable height,) and though containing much arable land, is dreary looking, and sparsely inhabited. Here limestone and marble are found in abundance. It is drained by the *Suck*, *Shannon*, and *Corrib*. Sheep farming, cattle rearing, tillage, and some fishing, are the chief occupations of the inhabitants.

Galway (13,000), the capital of Connaught, and also of the county of the same name, is situated on the north side of Galway Bay, with a population which is yearly diminishing. It is called the "city of the tribes" from the Spaniards who settled here at an early date, and ingrafted their manners and customs on the inhabitants, which may by a close observer be traced to this day. It was a packet station for America, and the steamers were subsidised by government, but, unfortunately, matters were mismanaged, and the subsidy was withdrawn. It is the seat of a Queen's College, has good fisheries, and capacious wine-vaults from its former intercourse with Spain. It held out for the Stuarts until 1652, and was taken after the battle of Aughrim in 1691 by Ginkle.

Loughrea (3,072) (*L. Loughrea*), has a market of poultry, and a good agricultural trade.

Tuam (4,200), a fine town, with numerous religious establishments, including two cathedrals; has a good market. It is the ecclesiastical capital of Connaught.

Ballinasloe (3,200) (*Suck*), has the greatest cattle market in Ireland. A branch of the Grand Canal extends from Shannon Harbour to this town, and the Midland railway passes the town.

Mayo, level on the E., but mountainous in the W. and N., is much indented by bays bordered by rocky cliffs. The largest island of Ireland is off its coast, and the

peninsula of the Mullet is in the N. W. of the country. It is drained by the *Moy*, flowing into Killala Bay, the *Robe*, into Lough Mask. This is a purely agricultural county.

Castlebar (3,568), is a town with inhabitants wealthy and industrious. The population is principally occupied in agriculture; pasturage is more attended to in this neighbourhood than tillage; trade is also improving. It has large barracks.

Ballina (5,860), a flourishing town, has considerable trade in provisions and grain, with a prosperous salmon fishery. It has a quay a mile from the town, and the shipping is increasing.

Killala (651), on the bay of same name, is an old cathedral town, where the French landed, 1798.

Ballinrobe (2,400) (*Robe*), is an improving town, with a good cattle fair.

Westport (4,417) and Newport (851) are active little ports on Clew Bay.*

Sligo is a good agricultural county, which produces excellent potatoes and good grain crops. The surface is in general hilly, interspersed with lakes, some of a large size, as *Loughs Gill* and *Arrow*.

Sligo (10,600) (*Garrogue*), pleasantly situated, admits vessels of 12 feet draught to discharge at the quay, and carries on an extensive trade in corn, provisions, and butter. It has some coasting trade, and an important fishery. It has two or three good schools, and some banks, and other public buildings.

Ballymote (1,180) and Tobercurry (884) have agricultural trade.

* "There is nothing in these isles more beautiful and more picturesque than the south and west of Ireland. They who know the fairest portions of Europe, still find in Ireland that which they have seen nowhere else, and which has charms all its own. One might suppose the island just risen from the sea, and newly beamed on by the skies—as if sea and land were there first parting, and the spirit of light and order beginning its work; such is the infinite confusion of surge and beach, bay, headland, river, lake, grass—of land and sea, sunshine and showers, and rainbow over all. Thackeray doubted, and any one may doubt, whether there is in all the earth a grander view than that over Westport to Clew Bay. But the whole coast, west and south, indeed all round the island, has beauties that many a travelled Englishman has not the least conception of. The time will come when the annual stream of tourists will lead the way, and when wealthy Englishmen, one after another, in rapid succession, will seize the fairest spots, and fix here their summer quarters. They will not be practically further from London than the many seats of our nobility in the North-Midland counties were thirty years ago. Eighteen hours will even now take the Londoner to the Atlantic shore, and twenty will soon carry him to the furthest promontory of the island. There are those who will not welcome such a change upon the spirit of that scene; but if we see in the beauty of Ireland even a surer heritage than in hidden mine or fertile soil, why may we not hope that it will again cover her land with pleasant homes, and a busy, contented, and increasing people, such as we see in many other regions with nothing but their beauty and salubrity to recommend them?"—*Times*.

Leitrim, long and narrow, is remarkable for the number of its lakes; has a cold and stiff soil: iron, coal, and lead are found. A small portion of the county reaches the sea; but it has no port. The chief lakes are:—Loughs *Melvin* and *Macnean*, between this county and Fermanagh; Lough *Allen* in the middle, and loughs *Rhyn* and *Boffin* in the S.

Carrick-on-Shannon (1,431), "Rockfort," is a small town without any particular industry.

Mohill (1,062), is a thriving market-town, centrally situated, with improving agricultural trade.

Manorhamilton (977) is a small town with agricultural trade.

Roscommon is a flat county, with the exception of that part bordering on Sligo and Leitrim, which is hilly. The soil is fertile, and rich pasture districts are found. Bogs are numerous, and though coal and iron have been found, they have not been worked to any considerable extent. Grazing and tillage are the chief industries. Many large lakes are on the borders of this county.

Roscommon (2,722) the assize town, is principally an agricultural mart. It has remains of a castle and an abbey.

Elphin (1,051), an old town, with a good cattle market, has a cathedral, and was once a bishop's see.

Boyle (3,161) (*Boyle*), near the river's entrance into L. Key, is a good town, with the remains of an abbey.

Castlerea (1,146) (*Suck*) has a brewery and a provision market.

Tulsk has numerous interesting ruins, but is a mere village.

TOWNS OF IRELAND WITH AT LEAST 8,000 INHABITANTS,

Towns.	Population.	Industries.
Dublin,	245,000	Brewing, lace and cabinet making, and commerce.
Belfast,	176,000	Great seat of linen trade, active commerce, ship-building, salt-refining.
Cork,	78,000	Butter market, butter exporting.
Limerick,	39,000	Ham curing, tobacco and snuff manufactures.
Londonderry,	25,000	Ship-building, shirt-making, commerce.
Waterford,	24,000	Great exports of provisions, fowl, etc.
Drogheda,	14,000	Corn market; cotton factories; export of provisions.
Galway,	13,000	Fishing; wool market.
Kilkenny,	12,000	Woollen manufacture; provision trade.

	16,387	Packet station; sea-bathing; fishing.
Kingstown,	12,000	Great exports of provisions.
Wexford,	12,000	Linen trade; timber imports; flour mills.
Newry,	11,000	Provision trade.
Clonmel,	10,000	Grain trade; commercial industry.
Sligo,	10,000	Distillery; great export trade.
Dundalk,	10,000	Timber, grain, and provision trade.
Tralee,	10,000	Agricultural trade
Newtownards,	10,000	Packet station, and port of Cork.
Queenstown,	8,000	Second linen seat in Ireland.
Lisburn,	9,000	Linen trade: pork market.
Carrickfergus,	8,000	Ham curing, butter trade.
Carlow,	8,000	Linen and cambric factories.
Lurgan,	8,000	Ecclesiastical capital.
Armagh,		

Mountains.—The mountains of Ireland are for the most part situated around the coast. Six primary groups are usually distinguished.

I. The Wicklow mountains in Wicklow county.

This county is studded with mountains, which are mostly arranged in detached masses, and at Glendalough and other places afford most picturesque scenery. *Lugnaquilla*, in the S., rises to 3,039 feet above sea level; *Ballyknockan*, in the W., 2,600 feet; *Sugar Loaf*, near Bray, 1,629 feet; *Kippure*, on the N. border, 2,473 feet.

II. The Mourne Mountains lie in the S. of county Down, and reach the town of Newry on the W.

The highest peak is *Slieve Donard*, on the brink of Dundrum Bay, 2,796 feet above sea-level; *Slieve Croob*, 1775 feet.

III. The Donegal mountains, which cover most of the county, consist of the following peaks.

Slieve Snoght, between Loughs Swilly and Foyle, is 2,020 feet high; *Muckish*, S. of Sheep Haven, 2,190; *Mount Errigal*, a little further S. is the highest peak, 2,462; *Bluestack*, N. of Donegal town, is 2,283 feet; and *Slieve League*, near Teelin Head, is 1,972 feet high.

IV. The Mayo mountains are in the W. of the county, not far from the Atlantic.

Slieve Car and *Nephin Beg*, both in the range N. of Clew Bay, rise 2,368 feet; *Croagh Patrick*, S. of the bay, 2,530; *Muilrea* mountain,

at Killary Harbour, 2,685 feet. The highest of the *Twelve Pins*, of W. Galway, rises 2,396 feet, and lies directly S. of the former.

V. The Kerry mountains run through the W. and S. of the county, and contain the greatest elevation in Ireland.

Brandon Mountain, N. of Dingle bay, rises on the W. coast 3,126 feet; *Carntoul*, in Macgillycuddy's Reeks, 3,404 feet, lies in a direct line between the Lakes of Killarney and Valentia Island; *Hungry Hill*, between Kenmare river and Bantry bay, 2,249 feet.

VI. This range runs N.W. from Limerick city through Tipperary, and separates King's and Queen's counties.

Commencing in the S. this range bears the following names: *Silver Mines*, a peak of which, *Keeper Hill*, is 2,278 feet high, lie in W. of Tipperary; the *Devil's Bit* is further N.E.; and *Slieve Bloom* still further N.E., the highest peak of which is *Arderin*, 1,733 feet, on the borders of Queen's county.

Secondary Ranges.—(1) The most important is the Antrim mountains, extending from the neighbourhood of Belfast almost to Fair Head. Here *Mount Throstan*, W. of Red bay, rises 1,817 feet; *Mount Divis*, in the S. of the range, 1,568 feet. (2) The *Carntogher* mountains, on the borders of Derry and Tyrone, rise above 1,100 feet. (3) *Cuiltagh*, between Fermanagh and Cavan, rises to 1,700 feet. (4) *Slieve Gamph*, on the borders of Mayo and Sligo, rises to 1,363 feet. (5) *Slieve Boughta*, in S. of Galway, 1,089 feet. (6) The *Galty* mountains, S. of Tipperary, are 3,000 feet high. (7) *Knockmeildown*, further S., 2,700 feet. (8) The *Commeragh*, S. of Clonmel, 2,508 feet. (9) In the Blackstairs range, *Mount Leinster* rises, between Wexford and Carlow, 2,610 feet, and *Blackstairs*, 2,409 feet.

Plains.—A great Plain, in the S. and centre of which is the Bog of Allen, runs across the centre of Ireland, and includes a portion of Carlow and Queen's county, all Kildare, and almost all King's county, with Tipperary N. of the Nenagh river. It includes the N. of county Dublin, Meath, Louth, and a portion of Armagh and Cavan, all Longford and Westmeath; and on the W. of the Shannon, nearly all Roscommon, and E. Galway. The E. of county Wexford is also a plain; and the celebrated *Golden Vale*, including a portion of Limerick and Tipperary, a more important one. A plain also surrounds L. Neagh, including part of each of the counties near it, and running N. on both sides of the Bann, almost to the ocean.

Minerals.—The minerals of Ireland, compared with

those of England, and some countries of continental Europe, are insignificant.

Coal.—There are five coal-fields, all of which are worked:—(1) *Antrim*, near the town of Ballycastle; (2) *Tyrone*, near Dungannon; (3) *Leitrim*, near Drumkerin; (4) *Munster*, in Tipperary, near Killenaule; (5) *Kilkenny*, near Castlecomer. No doubt coal exists in other places.

Copper is found in Cork, Wicklow, Tipperary, and Waterford counties.

Lead is found in Armagh, Dublin, and Tipperary.

Pyrites is found in Wicklow.

Marble is found in Kilkenny, Donegal, Fermanagh, and Galway.

Silver is found in very small quantities in Armagh, Wicklow, and Tipperary.

Iron is now found in Fermanagh, Cavan, and in the E. of Antrim.

Sulphur is found in Wicklow.

Rock Salt is raised in Antrim, near Belfast.

Canals.—The canals unite the navigation of many rivers and lakes in the interior of the country.

The **Royal** runs N. of Dublin, passes Mullingar, and enters the Shannon near Lanesborough, after passing through Longford county.

The **Grand** runs S. of Dublin, passes Philipstown and Tullamore, enters the Shannon, at Shannon Harbour, and proceeds to Ballinasloe. It sends a branch to Athy, and another to Mountmellick.

The **Ulster**, joins Lough Erne and Lough Neagh, passing the towns Monaghan and Clones.

The **Newry** connects the navigation of the Bann with Carlingford Lough.

The **Lagan** canal unites this river with Lough Neagh.

The **Boyne** canal runs from Drogheda to Navan and Trim.

The **Shannon and Erne**, which is not yet in operation, connects Lough Allen with Lough Erne, near Ballyconnell.

Rivers.—On the E. are the *Lagan*, *Dee*, *Boyne*, *Liffey*, *Ovoca*, and *Slaney*.

The **Lagan** rises in the centre of the county Down, runs W., passes Dromore, curves round to the N., passes Lisburn, and enters Belfast Lough at Belfast.

The **Dee** rises in Cavan, runs E. through Meath and Louth, and enters the sea S. of Dundalk Bay.

The **Boyne**, rising in King's county, traverses a very flat

country, passing Trim, Navan, and Slane, and enters the Irish Sea at Drogheda. On its banks was fought that important battle, 1690, in which James II. was defeated by his son-in-law William III. Its most important tributaries are the *Deel* and *Blackwater*. Its length is about 65 miles.

The Liffey rises in the Wicklow mountains, flows W., passes in a circuitous course through Kildare, and flowing E., enters Dublin bay. On its banks are Blessington, Newbridge, Lucan, and Chapelizod. Its length is 50 miles.

The Ovoca is formed of several streams from the Wicklow mountains. It flows S.E., passes Rathdrum, and enters the sea at Arklow The scenery on its banks is much admired.

The Slaney also rises in Wicklow, and running through Carlow, passes from N.W. to S.E. of Wexford county, and enters Wexford harbour. On its banks are Baltinglass, Tullow, Newtownbarry, Enniscorthy, and Wexford. Its length is 60 miles.

On the S. are the rivers *Barrow*, *Suir*, *Blackwater*, *Lee*, and *Bandon*.

The Barrow has its source on the N. declivity of the Slieve Bloom mountains in Queen's county. At first it runs northward, winds round to the east, passes Portarlington, and at Monasterevan turns directly south, passes Athy, Carlow, Leighlin-bridge, Bagnalstown, forms the boundary between Kilkenny, Carlow, and Wexford, passes New Ross, and enters Waterford Harbour after a course of 120 miles. Its most important tributary is the *Nore*, which rises on the same hill in Queen's county, proceeds in a southerly direction, passes Abbeyleix, Kilkenny, and Thomastown, and joins the Barrow a little north of the town of New Ross.

The Suir also rises in the Slieve Bloom mountains (and hence these three rivers have been called the "three sisters"), drains the great county of Tipperary, through which it runs from N. to S., is turned from its course by the Knockmeiledown mountains, runs N. and then E., forming the boundary line between Waterford, Tipperary, and Kilkenny, and with the Barrow forms a noble estuary called Waterford harbour. The towns on its banks are Thurles, Cahir, Clonmel, Carrick, and Waterford. Its length is about 60 miles.

The Blackwater rises in the W. of Kerry, and has for the most part an easterly course, passing Millstreet, Mallow, Fermoy, Lismore, and Cappoquin, it enters Youghal harbour. Most of its course has so beautiful scenery that it has been called the "Irish Rhine."

The Lee has its principal source in the Caha mountains. Near Macroom it is joined by several streams from the N. It now flows E., and passing Cork, enters Cork harbour.

The Bandon, rising a little S. of the source of the Lee, runs almost parallel to that river, passes Dunmanway, Ballyneen, and Bandon, and enters Kinsale harbour.

The Shannon rises on the borders of Cavan and Fermanagh, in Mount Cuiltagh, at a considerable elevation above sea level. After a sluggish course of about ten miles it enters Lough Allen, leaves it in a southerly direction, passes Carrick-on-Shannon, and running through Lough Baffin, forms the boundary line between Roscommon, Galway, and Clare on the right bank, Leitrim, Longford, Westmeath, King's county, Tipperary, Limerick, and Kerry on the left. After passing through Lough Ree and Athlone, two miles further south, it makes several bends in its course, passes through Lough Derg, a little south of which, near Killaloe, the navigation is interrupted by waterfalls, avoided by a short canal of two miles in length. After passing Limerick it meets the tide and forms a wide estuary and enters the Atlantic, after a course of 220 miles. In the Shannon the tide rises from 12 to 17 feet, and this noble river is navigable to within 10 miles of its source. Its principal tributaries are on the west—the *Suck* (with a course of 40 miles) and the *Fergus*; on the east are the *Camlin*, *Inny*, the greater and lesser *Brosna*, *Maique*, and *Deel*, with some smaller streams.

On the N. are the the rivers *Bann*, *Foyle*, and *Erne*.

The Bann rises in the [illegible] mountains under the name of Upper Bann, passes Banbridge, Gilford, and Portadown, and enters Lough Neagh. The Lower Bann issues from this lake, divides Antrim from Londonderry, passes Portglenone, and enters the sea below Coleraine. The whole course, including the lake, is about 80 miles.

The Foyle, properly speaking, is formed at Strabane by the junction of the *Mourne* from Tyrone, and the *Finn* from Donegal, passes Londonderry city, and enters Lough Foyle.

The Erne, rising in the S. of Cavan, passes through Lough Oughter, enters the Lough of same name, after passing Belturbet, passes Enniskillen, and enters Donegal Bay below Ballyshannon.

Lakes.—The principal lakes of Ireland are *Neagh*, *Erne*, and *Oughter* in Ulster; *Gowna*, *Sheelin*, *Derravaragh*, *Owel*, and *Ennell*, in Leinster; *Conn*, *Mask*, *Corrib*, *Gill*, *Melvin*, *Allen*, *Baffin*, *Ree*, and *Derg*, in Connaught; the lakes of *Killarney* in Munster.

Neagh is the largest lake in the United Kingdom. It receives the rivers Bann, Blackwater, Ballinderry, and Main, and covers 150 square miles, being 17 miles long and 10 broad. Its waters have been noted for their petrifying qualities.

Erne is divided into two parts, and is drained by a river of the same name. It produces abundance of good fish, is studded with about 100 islands, and is well wooded on the shores.

Oughter is also an expansion of the river Erne, and of an irregular shape. It also produces many varieties of fish.

Derravaragh is a large lake near Mullingar.

Owel lies a little further S. than the previous lake.

Ennell, often called *Belvidere*, is 4½ miles long and 1½ broad, and stored with fine fish.

Conn is bordered on the W. by hills and mountains, and the E. by a level country.

Mask, remarkable for its excellent trout, is a fine sheet of water; also bordered on the W. by mountains, and on the E. by lowlands.

Corrib is the second largest lake in Ireland, and lies 3 miles S. of Mask, whose surplus waters it receives through a subterranean channel, the stream being in several places visible on the surface.

Gill is remarkable for its picturesque scenery.

Melvin is surrounded by hills in almost every direction. Its salmon and trout fishery cannot be excelled.

Allen, shaped much like a triangle, is surrounded by bogs and marshes. It is 8 miles long, and 3 or 4 broad.

Baffin is of a very irregular form, and consists of two or three lakes bearing different names.

Ree, an expansion of the Shannon, is one of the best fish lakes in Ireland. Several islands, some nicely wooded, are on its bosom; and with a broken outline it is 17 miles long.

Derg,* an expansion of the Shannon, is 24 miles long, from 2 to 6 broad, and from 10 to 80 feet deep. Its surface is studded with islands.

The lakes of **Killarney** are three in number—the *Upper*, which is 2½ miles long and ¾ of a mile wide, with many beautiful islands on its surface; the *Middle*, which receives the surplus waters of the former by the Long Range river, is three miles long; and the *Lower*, which is 5 miles long and 3 miles broad, has about 30 isles on its bosom; and its greatest depth is 252 feet. Nothing can exceed the natural scenery of these lakes, surrounded by mountains of graceful outline, beautifully wooded with evergreens and other trees.

Mineral Springs.—The principal mineral springs are at Mallow, Clonmel, Lisdoonvarna, Lucan (near Dublin), Swanlinbar (in Cavan), and Ballinahinch (near Belfast).

Coast Line.—The coast line of Ireland, including the inlets marked by the penetration of the tide, is above 2,200 miles in length, and contains numerous fine harbours, 14 of which are capable of receiving the largest vessels.

* Another *L. Derg* is in the S. of Donegal, surrounded by dreary moors and bleak hills. It is subject to violent gusts of wind; and on one of its many isles stands St Patrick's Purgatory, a place of pilgrimage still much frequented.

Dublin bay, which is large and spacious, though not deep, is skirted on the N. by the Hill of Howth, a promontory rising 460 feet above sea level. The coast, as we proceed N., is low; and passing Malahide, a small watering place, *Lambay* isle, the isles called *Skerries* (four or five in number), no important bay is seen until the estuary of the Boyne, which forms a good harbour five miles long, is reached. Passing the low shores of Louth, with Clogher head, we arrive at Dundalk bay, an inlet about 10 miles wide at its entrance, but rather shallow. The peninsula lying between this bay and Carlingford lough is hilly and mountainous, some of the summits rising from 1,600 to 1,900 feet. The Mourne mountains come near the southern shore of the county Down, on the E. of Carlingford lough, a well-sheltered roadstead, with some sunken rocks at its entrance. Dundrum bay has a wide entrance, but Strangford lough, owing to a strong current at its mouth, and some rocks, is not a safe harbour. This lough cuts off a peninsula called the *Ards*, the coast of which is, in many places, bold and rocky. The small Copeland isles are at the entrance to Belfast lough, a safe roadstead, about 90 feet deep, and five miles wide at its mouth. On the Antrim side, the coast is, for the most part, rocky. Further north are Larne lough and Red bay. Fair head, the N. E. point of the island, is a bold promontory, between which and Bengore head lies Ballycastle bay, and 3 miles from its shore, *Rathlin* island, (rising 450 feet), a very good fishing station.

A few miles further W. is the celebrated *Giant's Causeway*, which "extends above 1,000 feet in length at low water, and consists of polygonal pillars, so closely and regularly joined together that their top is a perfectly smooth platform." Nothing particularly marks the N. coast until we arrive at Lough Foyle, the entrance to which (only one mile wide) on the E. being called Magilligan's point, and on the W. Innishowen head. This lough is 12 miles long, and is a safe harbour up to Derry city. The N. and W. of Donegal are rocky and mountainous, wild and rugged. Malin head is cold and bleak. Lough Swilly is irregular in shape, and has many islands on its surface. Teelin head is the most W. point in Donegal, the boundary between which and Leitrim is the river *Downes*. Donegal bay, much exposed to the Atlantic, is large and spacious, and of considerable depth. *Bundoran*, a much frequented watering-place, is in Donegal. The coast is now low and tame. Sligo harbour contains two bays. Sligo, on which is the town of this name, and Ballysodare, more to the W. Killala bay separates Mayo from Sligo, and is pretty deep, with good salmon and trout fishing in the rivers which enter it. Killary bay, extending seven miles inland, receives the largest vessels. Blacksod bay and Broadhaven are equally good harbours, the former being completely land-locked. *Belmullet* is a peninsula, on the N. of which is Erris head. A little further S. is *Achill* island, containing 35,000 acres. In Clew bay, about 17 miles

W. from Westport is Clare island, and more S. Inishturk and Inishboffin. The W. of Galway contains the rugged district called Connemara, containing the mountains known as the "Twelve Pins," remarkable for their picturesque beauty. Galway bay contains many large islands, and has not proved a very safe harbour, owing to the prevalence of sunken rocks. The N. sound and the S. sound lie N. and S. of the Arran Isles. From Black head in Galway Bay to Loop head, the only inlet on the rocky coast of Clare is Liscanor Bay, of small importance, except for sea-bathing. The entrance at the mouth of the Shannon is 10 miles wide. Tralee B. is S. of Kerry head; and Smerwick* bay, further S., is the place where a small Spanish force effected a landing in 1578, and were soon after defeated. Dingle bay (S. of the Blasket isles, Sybil and Dunmore heads) extends many miles inland, and is a fine deep harbour. Still further S. is Valentia island, very fertile, now containing the terminus of the Atlantic cable. A mountainous promontory lies between Dingle bay and Kenmare river; Bantry bay, a splendid natural harbour running 25 miles inland, is of some historical celebrity. Mizen head and cape Clear are prominent points a little further E., the former rising 750 feet. Cape Clear Island has only a few inhabitants, and is bold and rocky. On the S. of Cork the inlets penetrate the land deeply. Glandore, Clonakilty, and Courtmacsherry bays, together with Kinsale, Cork, and Youghal harbours, are the most important. Cork harbour contains in its bosom the *Cove*, and is one of the finest harbours in Europe. *Spike Island*, on which is a convict establishment and artillery barracks, serves as a breakwater to the inner harbour. Passing Ballycotton bay, wide and open, we arrive at Youghal harbour, in the county of Waterford, which receives the Blackwater. Passing Tramore bay, we meet Waterford harbour, a fine inlet of the sea, separating the counties of Wexford and Waterford. It is deep and clear, and capable of receiving large ships, and has some active trade. Hook head is the most southern point of Leinster, and is on N. of Waterford harbour. Going east from this point we pass the *Saltee* isles, and arrive at Carnsore point, the south-east extremity of Wexford. The harbour of Wexford is land-locked and secure; very narrow at entrance; widens into a fine bay, but its utility is impeded by a bar at the mouth, leaving only eighteen feet of water at high tide. The east coast of Leinster is comparatively even and tame, there being no bay deserving of the name from Wexford to Dublin. Bray head is 722 feet high.

Irish Railways.—1. The Midland Great Western, connecting Dublin with Galway, Sligo, and Westport, has seven capitals of counties on it, and proceeds through Mullingar, Athlone, Roscommon, Boyle, and Castlebar.

* A contraction of St. Mary wick.

2. The Great Southern and Western connects Dublin with Cork, Tralee, and Limerick, and has twelve capitals of counties on it. It proceeds through Kildare, Portarlington, Maryborough, Thurles, Charleville, and Mallow (Killarney to Tralee) to Cork.

3. Dublin is connected with the N. of the Island by the Great Northern railway, proceeding through Drogheda, Dundalk, Newry, Portadown, to Belfast, and to Londonderry by Enniskillen.

The principal Railway Centres are at Clones, Portadown, Mallow, and Limerick Junction near Tipperary.

Education.—Ireland has two Universities—Trinity College, Dublin, founded in 1591, and richly endowed; and the Queen's University, consisting of colleges in Belfast, Cork, and Galway, founded in 1849. The education of the middle classes is carried on in the Royal Schools, those of Erasmus Smith, and several others established by private enterprise. The *National Schools*, which have conferred great benefit on the country, are attended by nearly one million of children. The "Christian Brothers'" schools, and those of the "Church Education Society," are also numerously attended.

THE COMMERCE AND MANUFACTURES OF IRELAND.

Both the commerce and manufactures of Ireland are on a very limited scale when compared with those of the sister isle. Intercourse in trade is chiefly carried on with England; and to a less extent with America, Scotland, and the continent. Irish commerce mainly consists in the exportation of agricultural produce, cattle, and linen goods, and the importation of colonial produce, wines, brandies, cutlery, machinery, coal, groceries, earthenware, hardware, and manufactured goods. Dublin is the greatest commercial depot of the country; the other chief trading towns are Belfast (mainly exporting linen), Cork and Waterford (mainly exporting provisions), Drogheda, Dundalk, Limerick, Londonderry, Newry, New Ross, Galway, and Wexford. Cattle and pigs are principal articles of the export trade, and it is estimated that 14 millions' worth are annually shipped to Great Britain. Butter, fowl, eggs, bacon, lard, corn, flour, and meal, are also largely exported. The northern towns monopolize the trade in linen; it is computed that 12 millions' worth of this article is annually exported. The salmon of the Shannon, Moy, Erne, Bann, Suir, Blackwater, Boyne, and other rivers, also constitute an important article of commerce. Trade with England is mainly carried on through Liverpool, Bristol, Milford, and Holyhead; and trade with Scotland through Glasgow and Greenock.

From the comparative scarcity of the necessary minerals, as well as their disposition (the coal and iron not being found in sufficient quantities together), we find that Ireland is by no means so well adapted to carry on extensive manufactures as England. Linen, the staple manufacture, is almost wholly confined to the province of Ulster, and has its centre at Belfast. The manufacture of cotton goods has declined; it is still carried on to a small extent in Belfast, Drogheda, and Portlaw. Woollen goods are manufactured very generally for home consumption, as flannels, friezes, and tweeds and stockings. Poplin, a fabric of silk and worsted, and ornaments in bog-oak, are made in Dublin. Limerick manufactures gloves, and army-clothing. Distillation is carried on in various parts, especially in Dundalk, Cork, and Dublin, and the Irish whiskey, now much used in England, excels the Scotch in strength as well as flavour. Breweries are numerous and extensive, those of Dublin, Cork, Kilkenny, Waterford, and Drogheda, are worthy of note. Paper is manufactured at Dublin, Navan, Galway, and other places. There are tanneries in all the important towns. In Donegal many females are employed in the worked muslin trade, and kelp is made on the shores and exported to Glasgow. Numerous other minor articles, as soap, candles, coarse earthenware, sail-cloth, ropes, etc., are manufactured for home use. Belleek has famous potteries. The want of capital, combined with a feeble spirit of enterprise, has hitherto proved a barrier to the prosperity of Irish manufacturing industry. It is indisputable that the more extensive introduction of manufactures, as affording a means of regular employment, would be highly beneficial to the lower classes in Ireland.

IRISH MANUFACTURES.

The linen manufacture is the principal, Belfast being its chief seat; together with Lisburn, Ballymena, Newtownards, Lurgan, Portadown, Newry, Carrickfergus, and Portlaw, in county Waterford.

Cotton is manufactured, as already stated, to a limited extent at Belfast, Drogheda, and Portlaw.

Woollens.—A kind of coarse woollen cloth called frieze, is made in many places; Mountmellick, Kilkenny, Lisbellaw, Hillsborough, Mullingar, Kilmacthomas, Waterford, Bailieborough, Carrick-on-Suir, and Blarney. **Tweeds** are now made at *Navan*, *Blarney*, etc.

Tabinets, Lace, and Poplins, are made in Dublin.

Glass is made in Belfast, Cork, and Dublin.

Iron Foundries are in Mountmellick, Wexford, Cork, Dublin, and Belfast.

Hosiery is very extensively manufactured in Balbriggan.

Whiskey is very extensively made in Dublin, Belfast, Coleraine, Dundalk, Cork, Bushmills, Limerick, Bandon, Londonderry, Comber, Birr, and Galway.

Beer is made in Dublin, Castlebellingham, Bandon, Cork, Newtownards, Ballygawley (Tyrone), Birr, Newry, Skibbereen, Drogheda, Tullamore, Londonderry, Tralee, Dungarvan, and other places.

Pottery Ware.—Belleek has lately become famous for its pottery.

Leather is made in Dublin, Newry, Belfast, Coleraine, Cork, Bandon.

Paper.—Dublin, Antrim, Navan, Belfast, and Armagh, have paper manufactures.

Gunpowder is made at Ballincollig (near Cork): **shot**, at Ballycorus, S. of Dublin.

Cambrics are made at Lurgan and Portadown.

Tobacco and **Snuff** are manufactured in Dublin, Cork, Limerick, and all the large towns.

Thread.—Gilford (county Down) is the greatest place for thread factories in the United Kingdom.

Shipbuilding is of little importance as an Irish industry; Belfast, Londonderry, Dublin, Cork, have some shipbuilding; but it is only at Belfast the largest vessels are made; one at present nearly completed is, next to the Great Eastern, the largest vessel in the navy.

Corks and **Glass Bottles** are made in Dublin, Cork, and Belfast.

Fisheries.—Salmon fisheries are at the towns of Coleraine, Ballyshannon, Sligo, Ballina, Galway, Limerick, Bandon, Youghal, and Drogheda; herring, at Howth, Arklow, and Ardglass (co. Down); also to a less degree all round the coast. Almost every other variety of fish common to the British seas is found on the Irish coast.

IRISH AGRICULTURE.

The occupation of nine-tenths of the population of Ireland consists in agricultural pursuits, subdivided into grazing, tillage, and dairy farming. As yet, chiefly for lack of capital, few of the agricultural improvements of England have been introduced by the Irish farmers. On many large farms, however, we find the application of steam power successfully introduced. The best grazing counties are Meath, Roscommon, and Limerick.* The pre-eminently sheep counties are Wicklow, Galway, and Kildare. *Pigs* are numerous in Wexford and

* Those producing the greatest number and best quality of fat cattle.

almost every other county. *Goats* are most numerous in Kerry, and *Asses* in Cavan, Kerry, Cork, and Galway.

Down, Tyrone, Donegal, and Londonderry, are the most remarkable *Flax* counties. *Green Crops* are most extensive in Cork, Tipperary, Galway, and Tyrone: *beans and Peas* in Wexford much more than in any other county. *Wheat* is largely produced in Kilkenny, Down, Tipperary, and Cork: *oats* in Meath, Cork, Tipperary, Tyrone, Antrim, Down, and Donegal. The Queen's county raises most *Barley*; and Antrim, Cork, and Wexford, most *Hay*. *Potatoes* are produced abundantly in every county of Ireland; but Kilkenny, Wexford, Cork, Antrim, and Tyrone give most of them, in proportion to their size. *Turnips* are raised largely in Queen's county, Mayo, Tipperary, Cork, Donegal, and Galway. *Dairies* are kept mostly in Cork, part of Limerick, and Kerry. *Horses* are most numerous in Dublin, Wexford, Cork, Antrim, and Down, Tipperary, Cavan, Mayo, Galway, and Wexford. Out of an area of 20 millions of acres, about 15½ millions are arable.

LATITUDES AND LONGITUDES.

PLACES OF THE SAME OR VERY NEARLY THE SAME LONGITUDE.

Degrees.		
1¼	E.	Canterbury, Ipswich, Norwich.
½	E.	Hastings, Maidstone, Chelmsford, King's Lynn.
0		Lewes, London, Boston, Grimsby.
½	W.	Guildford, Windsor, Bedford, Lincoln, Whitby.
1	W.	Portsmouth, Reading, Nottingham, York, Lerwick.
1½	W.	Southampton, Warwick, Derby, Sheffield, Leeds, Shields.
2	W.	Poole, Cheltenham, Walsall, Leek, Berwick, Frazerburgh.
2½	W.	Dorchester, Bristol, Hereford, Bolton, Blackburn, Appleby, Kelso, Dunbar, Montrose, Banff.
3	W.	Bridgewater, Newport, Monmouth, Liverpool, Carlisle, Dundee, Kirkwall.
3½	W.	Exeter, Merthyr Tydvil, Denbigh, Workington, Dumfries, Perth, Thurso.
4	W.	Swansea, Bangor, Kirkcudbright, Glasgow, Stirling, Dornoch.
4½	W.	Liskeard, Douglas, Wigtown, Kilmarnock, Paisley.

5 W. Truro, Milford, Stranraer, Rothsay, Inverary, Cape Wrath.
5½ W. Penzance, Donaghadee, Oban.
6 W. Land's End, Dublin, Belfast.
6½ W. Wexford, Dundalk, Portadown, Ballymoney, Stornoway.
7 W. New Ross, Carlow, Athy, Monaghan.
7½ W. Carrick-on-Suir, Mountrath, Tullamore, Granard Lifford.
8 W. Youghal, Athlone.
8½ W. Cork, Limerick, Sligo.
9 W. Ennis, Galway.
9½ W. Killarney, Kilrush, Westport.
10 W. Clifden, Achill Isle, Belmullet.

PLACES OF THE SAME OR VERY NEARLY THE SAME LATITUDE.

Degrees.
51 N. Winchester, Salisbury, Taunton.
51½ London, Bristol, Cardiff, Bantry.
52 Ipswich, Buckingham, Tewkesbury, Cheltenham, Hereford, Brecknock, Youghal, Cork.
52½ Lowestoft, Birmingham, Montgomery, Enniscorthy, Kilkenny, Limerick.
53 Boston, Nottingham, Stoke, Newcastle, Wicklow, Athy, Maryborough.
53½ Sheffield, Manchester, Liverpool, Dublin, Athlone, Ballinasloe.
54 York, Lancaster, Dundalk, Cavan, Boyle.
54½ Whitby, Darlington, Appleby, Newtownards, Belfast, Omagh, Ballyshannon.
55 Newcastle, Carlisle, and Londonderry.
55½ Jedburgh, Selkirk, Ayr.
56 Dunbar, Leith, Falkirk.
56½ Dundee, Perth, Oban.
57 Stonehaven, Balmoral.
57½ Inverness.
59 Kirkwall.
60 Lerwick

ADDITIONAL NOTEWORTHY PLACES IN THE UNITED KINGDOM.

[*The learner must know at least the position of each county in the British Isles and its Capital, before he can avail himself of this important list of remarkable places.*]

Abbotsford, on the Tweed (Rox.), the residence of Sir Walter Scott.

Abergele (Denb.), (6,000), where an accident occurred to the Irish mail train by an explosion of petroleum oil, when 14 persons, including Lord Farnham and Judge Berwick, were burnt to cinders.

Abernethy (Perth), the capital of the ancient Picts, has one of the two round towers in Scotland.

Abingdon (Berks), 6,000, on the Thames, formerly the seat of an abbey, has trade in malt and some sack-making; attacked twice by the Royalists, 1644-5.

Adare, a small town (Limk.), has the ruins of three abbeys.

Aldershot (21,000), has become important from the establishment of a permanent barrack and camp, which has attracted many tradesmen and mechanics to the district.

Alford (Aber.), where Montrose defeated General Baillie and the Covenanters, 1645.

Alfreton, a town (Derby), has manufactures of stockings.

Amesbury or **Ambresbury** (Wilts), the birth-place of Addison (1672), one of the purest writers in the English language.

Amersham, a town (Bucks), has manufactures of black lace, straw-plait, and wooden chairs.

Andover, 5,500 (Hants), on the border of the Downs, an important agricultural town where the matting trade is carried on; it has a silk stocking manufactory. It has also a good grain market.

Ardmore, a good watering-place (Waterford), has a round tower.

Arundel, 3,000, on the Arun (Sus.), has a considerable export trade in corn and timber; here is Arundel Castle, the seat of the Duke of Norfolk.

Ascot (Berks), is noted for its races.

Ashford (8,500), is a flourishing town of Kent, one of the largest stock markets in the county. It is in the midst of the hop and agricultural districts, and near it the S. E. Railway Company have established their extensive locomotive and carriage manufactories.

Ashbourne—(i.) a town (Derby), with a good cheese market and lead mines; (ii.) in Meath, near which is a race-course.

Athelney (Som.), an island between the Parrot and Tone, at their junction, with a forest in which Alfred the Great concealed himself from the Danes, 878.

Athenry, a town (Galway), where the Irish septs were defeated with great slaughter, 1316. Extensive ruins are near the town.

Atherton Moor (Lanc.),where the royalists defeated Fairfax, 1643.

Aughrim, Aghrim—(i.) a village (Gal.), where the army of James II. was defeated by that of William III., 1691, and St. Ruth, the commander of the former, slain; (ii.) an unimportant village in Wicklow.

Aylesford (Kent), where the first battle was fought between the Britons and Saxons, 455.

Axminster, 3,000 (Dev.), on the Axe, where excellent carpets were formerly made.

Balla, a town in Mayo, with a good cattle market.

Ballinahinch—(i.) a town (Down), with a spa well; where the insurgents were defeated, 1798; (ii.) a village in Galway, has a very good salmon and trout fishery.

Ballinamuck, a village (Longford), near which the French under Humbert were defeated and compelled to surrender by the king's troops, under Lord Cornwallis, 1798.

Ballachulish, a small town (Argyle) with extensive slate quarries. It stands on Loch Leven, near the entrance to Glencoe.

Ballyragget, on the river Nore (Kilkenny), has the ruins of a castle, and near it is the cave of Dunmore, entered by an arch 50 feet high, containing many curious chambers within.

Balmoral, 45 *m.* from Aberdeen, the Scotch residence of Queen Victoria; beautifully built on the Dee.

Baltimore, a village (S.W. of Cork county), where the Spaniards landed, 1602; it was sacked by the pirates of Algiers, 1631.

Bannockburn, battle of, 1314. *See* Stirling.

Bantry Bay (Cork). Here the French fleet was defeated, 1796; a mutiny broke out here, 1802.

Barking, on the coast (Essex,) is inhabited by fishermen who supply the London Markets.

Barnet (Herts) (3,700), on the borders of Middlesex, where Warwick the Kingmaker was slain on Easter Sunday, 1471. It is much engaged in brickmaking.

Basingstoke (Hants) has malting and corn trade.

Bass Rock, rising 420 feet high, in the Frith of Forth; last place held out for the Stuarts.

Battle (Sus.), where William I. built an Abbey, 1066.

Battersea, on the Thames (Sur.), remarkable for its park and gardens, lately much improved.

Beachy Head, a bold headland 563 feet high (Sus.), off which the French fleet, under Tourville, defeated the English and Dutch fleets, under Torrington, afterwards lord, 1690.

Belleek, a village (Ferm.), the only place in Ireland where porcelain is manufactured.

Benburb (Tyrone), where O'Neill defeated the English under Pagnal, 1598; also called the battle of Blackwater.

Berkhamstead, 3,500 (Hertford), the birth-place of the poet Cowper, has considerable trade, and a grammar school.

Berkeley Castle (Glos.), the birth-place of Dr. Jenner, the discoverer of vaccination. Here Edward II. was murdered, 1327.

Bessbrook* has linen factories on an extensive scale.

Bicester, an important agricultural, commercial, and sporting town (Oxford), has cloth and sacking manufactories, and a brewery.

Blairgowrie (5,000) (*Ericht*), in Perth, is remarkable for scenery.

Brighouse (7,400), in Yorkshire, has trade in cotton, silk, and wire-making.

Blackheath, near Greenwich (Kent), where Wat Tyler's, and also Jack Cade's adherents encamped, 1381 and 1451.

Blair Athole, in Perth, is noted for its delightful scenery.

Blandford (1536), on the Stour (Dorset), has extensive manufactures, of shirt buttons.

Blarney (Cork), a village in which there is an active manufactory of woollens and tweeds. Its castle was besieged 1690.

Bloreheath (Staff.), where the Yorkists defeated the Lancastrians 1459.

Boroughbridge (York). Here the army of Lancaster was defeated by Edward the Second's troops, 1322.

Boscobel (Shrops.), where Charles II. concealed himself after the battle of Worcester, 1651.

Bosworth, a village (Leicester), where Richard III was defeated and slain by Harry Richmond, afterwards Henry VII., 1485—the last battle of the "Wars of the Roses."

Bothwell Bridge (Lanark), where the Covenanters' troops were defeated by Monmouth, 1679.

Bournemouth, a fashionable watering place on Poole Bay (Hants).

Braddock down (Cornwall), where the Parliamentarians were defeated by the Royalists, 1643.

Bridgend (Glamor.), a town on the Ogmore, has woollen manufactures and large iron works in the immediate vicinity. Here the elections for the county are held.

Bridport (Dorset) (7,600), a borough on the Bride; has a good harbour, and a brisk trade; with manufactures of sail-cloth, shoes, thread, lines, and nets.

* Here was signed the Act of Union between Great Britain and Ireland, 1800.

Brixham, on Torbay (Dev.), where William Prince of Orange landed, 1688.

Burgh-on-Sands, a village (Cum.) on the Eden, where Edward I. died, 1307, on his way to attack the Scots.

Burnham Thorpe, near Lynn Regis (Norf.), the birthplace of Lord Nelson, 1767.

Bushmills, on the small river Bush (Antrim), with an excellent distillery.

Calne, 5,315 (Wilts.), a neat town, has some flax and paper mills.

Carbery Hill, where Mary Queen of Scots was defeated by her nobles. (Edinburgh), 1567.

Carisbrooke Castle, built by the lord of the Isle of Wight, near Newport, soon after the Conquest; where Charles I. was imprisoned for 10 months, 1647.

Carron, in Stirling, is a good seat of the iron trade.

Carstairs, a town a few miles from Glasgow, with manufactures of chimney pots. Many sand quarries are worked here.

Castlebellingham (Louth), with a brewery.

Castleford (York), situated at the junction of the Aire and Calder, the seat of the Yorkshire potteries and glass bottle trade; is near the centre of the West York Coal District.

Chalgrove Field, 14 miles S.E. of Oxford city, where a battle was fought in the civil war, 1643, in which John Hampden was slain.

Cheddar, a town (Som.), where the celebrated "Cheddar cheese" is made.

Chelsea (Mid-sex.), on the Thames, with a fine hospital for invalided soldiers, has splendid gardens.

Chertsey (Surrey), where Cæsar crossed the Thames.

Cleckheaton (6,583) (York), has worsted and woollen factories.

Chippenham, 1,387 (Wilts), is a great seat of the cheese trade; stands on the Avon. It was taken by the Danes, 880, being then the residence of the kings of Wessex.

Chudleigh (Devon), nearly destroyed by fire in 1807, but is now an important place; is situated in an agricultural district, where much trade is carried on, and is famous for cider orchards.

Cinque Ports, consisted of 5 ports, "chartered in the time of Edward the Confessor," viz.: Sandwich, Dover, Hythe, Romney, and Hastings. They were formed into a separate jurisdiction by the Conqueror, under a warden. To these Winchelsea and Rye were added afterwards. These towns were bound to provide a certain number of vessels for the protection of the coast for 15 days.

Clontarf, a rising suburb of Dublin, where the Danes were defeated 1015, by Brian Boromhe, king of Ireland.

Coatbridge, about 10 miles E. from Glasgow (Lan.), has great smelting furnaces and brick making.

Cooper's Hill, (Sur.), of poetical fame, where the new Indian Engineering College has been built.

Creetown, a small port (Kirkc.), has granite quarries of which the new Liverpool docks were constructed.

Crieff (Perth), with manufactures of cotton, woollen, and linen, and worsted stuffs, is in the midst of delightful scenery.

Cropredy Bridge (Oxf.), the scene of an indecisive battle, 1644.

Culloden, a moor about five miles from Inverness, the scene of the final overthrow of the adherents of the Stuarts, 1746. It is now a railway station, though nothing but a small village.

Corfé Castle (Dors.), where Edward, the martyr, was murdered, 979.

Dangan Castle* (Meath), where Wellington was born, 1769.

Daventry (4,051) (Northam.), has manufactures of shoes and silk stockings. It is a considerable agricultural centre in the W. of the county.

Deddington (Oxford), one of the four polling districts of the county, is an improving town, near the borders of Northampton.

Denton (*Lanc*) (5,117), has hat-making and cotton spinning rather extensively.

Driffield (5,000) (York), manufactures linseed cake, &c.

Drumclog, a village on the borders of Ayr and Lanarkshire, where the Covenanters defeated Graham of Claverhouse, 1679.

Dulwich (Sur.), stands directly S. of London, near Forest Hill, with mineral springs, and a richly-endowed college.

Duncannon Fort, on the S. of Wexford, commands Waterford Harbour. Here James II. set sail after the battle of the Boyne, 1690.

Easingwold (York.), an ancient town in the N. Riding; has several medicinal springs.

Eastbourne (Sus.), a fashionable watering-place, rising in public estimation.

Edgecote, *see* Banbury.

Edgehill (War.) was the scene of the first battle in the civil war, 1642, in which, though indecisive, 5,000 men were slain.

Elderslie, a village two miles from Paisley, where Sir W. Wallace, the Scotch patriot, was born.

Elstow, near Bedford, the birth-place of John Bunyan, who wrote the best allegory in any language.

* The weight of evidence goes to prove he was born in Dublin.

Epworth, a village (Lincoln), the birth-place of John Wesley.

Evesham (5,000) (Wor.) where Prince Edward (Edward I.) defeated and slew De Montfort, Earl of Leicester, 1265.

Fishguard, on the coast of Pembroke, where a French detachment landed, 1797; but they were soon made prisoners.

Flodden Field, a village (Northumberland), 13 miles S.W. of Berwick, where James IV. of Scotland was defeated and slain, 1513, by the English under the Earl of Surrey.

Foilhammerum, a village on Valentia Island (Kerry), the terminus of the Atlantic cable.

Fort Augustus, a small village, no longer a fortress, standing near the middle of the Caledonian canal.

Fort William is a small town of about 1000 inhabitants, on Loch Eil, near the S. entrance to the Caledonian canal. It is no longer a fortress.

Fotheringay Castle (Northam.), where Mary Queen of Scots was imprisoned and beheaded, 1586; it no longer exists.

Glencoe, with Alpine scenery (Arg.), where the clan of MacDonald was atrociously massacred, 1692, owing to the inveterate hatred of the Master of Stair.

Gorey, a town (Wex.), with good trade in agricultural produce: here was a battle, 1798, in which the king's troops were defeated.

Gretna-Green, a village (Dumfries), a station on the Caledonian railway; well known until lately for its irregular marriages, which were annulled by an Act of Parliament, 1856.

Hackney, a village, 2 miles N. of London, where Howard the philanthropist (who died at Kerson) was born, 1726.

Halesworth (Suff.), is employed in agriculture, spinning and weaving yarn from hemp.

Halidon Hill, opposite Holy Island (Dur.), where Edward III. defeated the Scots, 1333, and placed Edward Baliol on the throne.

Halstead, 7,000 (Essex), on the Colne, 18 miles from Chelmsford, with manufactures of silks, satins, velvets, and straw plait.

Haslingden, 7,698 (Lanc.), has much mining and quarrying.

Hayle (Corn.), exports copper.

Hedgeley Moor, in Northumberland, where the Lancastrians were defeated, 1464.

Heckmondwike, 8,300 (York), makes blankets and heavy woollens.

Heytesbury (Wilts), is engaged in cloth making.

Heywood, 21,248 (Lanc.), is chiefly engaged in the cotton manufacture.

Hexham (5,331) (Northum.), with remains of a cathedral: a battle was fought here, 1464, in which the Yorkists were victorious.

Hitchin (1,630) (Herts), in a pleasant valley, in an agricultural district, and in the neighbourhood of several fine old mansions: straw-plait manufactures are carried on.

Homildon Hill, *see* Wooler.

Horsham (7,747) (Sus.), so named from Horsa, the Saxon prince.

Huntley (3,750) (Aber.), has granite quarries.

Hurst Castle, on the Solent, where Charles I. was imprisoned, 1648, has a good fowl market and excellent quarries.

Hyde (Ches.), 13,000, is seven miles from Manchester: owes its rise chiefly to the cotton manufacture, together with iron, coal, and print works, in which the inhabitants are actively employed.

Ilchester (Som.), the birth-place of Roger Bacon.

Ilkeston (Derby) (9,662) 12 miles from Derby. Population is principally employed in the silk, lace, and hosiery, and in the iron and coal trades.

Inverlochy, on the Lochy (Inver.), near Fort William, where the Covenanters were defeated by Montrose, 1645.

Ironville (Derby) forms, with *Codnor* and *Park*, a rich and prosperous mining district.

Ironbridge (Salop), has trade in coal and iron.

Kew (Sur.) is noted for its botanical gardens.

Kilmallock (Lim.), where there are very extensive ruins. Here several skirmishes occurred in 1641-2, and here the Fenians attacked the police, 1867.

Killiecrankie, a pass about 2 miles long, of exquisite beauty (Perth), through the Grampians, where Graham of Claverhouse, the leader of the Highlanders, fell, 1689, fighting against the army of William III. The railway now runs through this pass.

Kilcolman, an old castle (Cork), where the poet Spencer resided.

Kilsyth (Stirling), where Montrose defeated the Covenanters, 1645.

Kingsbridge (Dev.), on an inlet of the English Channel, remarkable for the salubrity of its climate. It is in a rich agricultural district, with some trade in malt and leather. It produces a liquor called *white-ale*, not found elsewhere.

Kington (Here.) has manufactures of coarse woollens.

Knighton (Rad.), where Owen Glendower defeated and made prisoner Sir Edmund Mortimer.

Kirriemuir, 4,000, a town (Forfar), where black linens are extensively made.

Largs, on the coast of Ayr, where Haco of Norway was defeated, 1263.

Landsdown, near Bath (Som.), where an indecisive battle was fought in 1643.

Langholm (Dumfries), a town on the Esk, has two woollen factories, looms for woollen, plaid, and other fabrics, some dye-houses, two branch banks, and some libraries.

Langside, near Glasgow (Ren.), where Mary Queen of Scots was defeated by Murray, 1568.

Langport (1,000) (Som.) (*Parret*), has river-carrying trade of considerable importance.

Leatherhead (*Mole*), an important village between Epsom and Dorking.

Leighton-Buzzard (4,700) (Beds.), on the Grand Junction Canal, is engaged in straw-plait and lace-making.

Linton (Som.), a watering-place.

Lisbellaw (Ferm.), with manufactures of woollens and tweeds.

Lisdoonvarna, a village in Clare, with excellent spas.

Lucan, on the Liffey (Dublin), is a small old town, noted for its chalybeate springs.

Lutterworth (Leic.), associated with Wycliffe, and the parish of which he afterwards became rector, 1374.

Lymington (2,474) (Hants), where the timber of the New Forest is chiefly shipped. It is a good watering-place.

Machynlleth, an ancient town (Montg.), where Owen Glendower held a parliament, 1402.

Malmesbury (Wilts), once had a mitred abbot.

Market-Harborough (Leices.), a town on the Welland, with manufactories of shoes, hose, etc.

Marston-Moor, 9 miles S. W. of York city, where Cromwell defeated the royalists under Prince Rupert, 1644.

Melrose, on the Tweed (7,000), remarkable for the ruins of its ancient abbey.

Melton-Mowbray (Leic.), the centre of a great hunting country, and where much Stilton cheese is made; also pork pies.

Middleton, 5 miles from Manchester; has a grammar-school, and cotton and silk factories.

Midleton (Cork), has an onion fair like that of Birmingham.

Monk-Wearmouth (Dur.), on the Wear, the birth-place of the Venerable Bede.

Mortimer's Cross (Here.), near Leominster; here was a battle in 1461, which fixed Edward IV. on the throne, and in commemoration of which a pedestal is erected on the spot.

Morley (9,607) (Yorkshire), is engaged in the woollen manufacture, and also in mining.

Moreton-in-Marsh (Glouces.), on the borders of the four counties of Gloucester, Worcester, Warwick, and Oxford, has linen manufactures and local trade.

Naseby, 12 miles N. of Northampton, where the forces of Charles I. were utterly overthrown, 1645, and his artillery and private papers taken by the Parliamentarians.

Neville's Cross (Dur.), where David II., King of Scotland, was defeated by Queen Philippa, Queen of Edward III., and brought a prisoner to London, 1346.

Newark (Notts.), where King John died, and where Charles I. was given up by the Scots to the English army, 1646.

Newbridge—(i.) in Kildare, has a barrack, near which is the Curragh Camp; (ii.), a village of Wicklow, near which are copper and sulphur mines.

Newbury (in Berks), here two indecisive battles were fought, 1643-4.

Newcastle (county Down,) has mineral springs.

Newport (Shrop.), on the Strine, with numerous mines of iron and coal, possesses a covered general market and corn exchange, with public offices.

Newport (Mayo), a small sea-port on Clew bay.

Newtownbutler (Ferm.), where the adherents of James II. were signally defeated by the Enniskilleners, 1689.

Nore—(i.) a naval station, and admirable anchoring place, off Sheerness, where a mutiny broke out, 1797; (ii.) a river in the county Kilkenny, already described.

Northallerton, 5,000 (York), where the "Battle of the Standard" between England and Scotland was fought, 1138.

Newton Abbott (12,137) (Dev.), has cheese and butter trade.

Ormskirk (Lanc.), is a rising town, with cotton and silk factories, and coal trade; gingerbread is made.

Ossett (9,000) (York), has trade in coal, cotton, &c.

Otterburn (Northu.), where Hotspur defeated Earl Douglas, 1388. This battle was immortalized in the famous ballad of "Chevy Chase."

Penrhyn, 3,679 (Cornw.), in the midst of orchards, which are so numerous as to resemble a forest; has trade in artificial manures.

Peterloo, near Manchester, where a Reform meeting was dispersed by the cavalry and 500 people wounded, 1819.

Peters Fields (6,103), near Manchester, where the "Blanket Meeting" was held, 1817, every man bringing a blanket to encamp in the fields in the intended insurrectionary movement.

Pevensey Bay (Sus.), where William the Conqueror landed, 1066.

Philiphaugh, a village near Selkirk, where Montrose was defeated by the Covenanters, 1645.

Portaferry, a small town (Down), whence many of the leaders of the insurgents of 1798 escaped to France.

Pinkie (Edinb.) Here the Scots were defeated in 1547.

Pontefract, 5,372 (York), has extensive liquorice plantations. It is famed for its castle. Here Richard II. was murdered, 1400.

Portland (Dorset), a great convict depot, exports building and tomb stones. Off this town Admiral Blake defeated the Dutch, 1652.

Portsoy (Banff), a seaport, with a good stirring trade in corn, salt-fish, flax, and woollen stuffs.

Powick-Bridge (Oxf.), where the first cavalry skirmish occurred (a month before Edgehill), in the civil war, 1642.

Pudsey (14,000) (York), is much engaged in the woollen trade.

Pwilheli, 3,040, (Carn.), is a small port with active trade.

Rathmines (Dub.), where Colonel Jones, the Parliamentarian commander, defeated the Duke of Ormond, 1649.

Redruth (10,000), a good market town in Cornwall with tin and copper mines in the neighbourhood.

Rhuddlan (Flint), where the "Statute of Wales" was passed, 1284.

Radcliffe Bridge (11,446) (Lanc.), has cotton and coal trade.

Richmond (4,443), is a borough in the N. Riding of Yorkshire, for which it is a polling-place.

Ross (5,000), on a rock on E. bank of the Wye (Here.), has been made famous by Pope's "Man of Ross," John Kyrle, whose house is still here, and whose benevolence and public spirit the poet so justly admired.

Roundaway Down (in Wilts), where the Royalists were victorious over the Parliamentarians in a skirmish 1643.

Royston (Herts), has a building which was once the residence of James I.

Runnymede, an isle in the Thames (Berks), where the barons compelled King John to sign *Magna Charta*, 1215.

Rye House (Herts), near Ware, the scene of a plot, 1683.

Rye (Sus.), 3,864, one of the Cinque Ports (once a walled town).

Rowton Heath (near Chester), where the Irish contingent in favour of Charles I. was defeated by the Parliamentarians, 1645.

Seaham (9,000) (Dur.), has shipping and coal mining.

St. Bees, near the headland of same name (Cum.), with a theological college largely attended.

Saintfield (in Down), where a skirmish took place between the United Irishmen and the king's troops in 1798.

Sandringham (Norf.), the shooting seat of the Prince of Wales.

Sandhurst (Berks), a royal military college for the line.

Sedgemoor (Som.), where the Duke of Monmouth was defeated, 1685, by the forces of James II.

Shensham (Worc.), on the Severn, the birth-place of Samuel Butler.

Shepton Mallet (4,000) Somerset, where the famed "Cheddar" cheese is obtained.

Scone, near Perth, where the Kings of Scotland were crowned.

Sherborne (5,545) (Dor.), has silk and glove making.

Sherwood Forest (Notts), the scene of Robin Hood's exploits.

Shorncliffe, one of the four military camps, the others being Aldershot, Curragh, and Colchester.

Shotts (Lanark), has extensive iron and coal trade, large furnaces, etc. The district around is well farmed.

Sittingbourne (6,150) (Kent). Bricks, cement, and paper are largely manufactured.

Solebay (Suf.), where an indecisive but sanguinary action took place between the English fleet under the Duke of York and the Dutch under Opdam, 1665.

Solway Moss (Cum.), where the English defeated the Scots, 1542.

Southwold Bay, off Southwold (Suf.), where the Duke of York and Lord Sandwich fought a sanguinary battle with the Dutch fleet under De Ruyter, 1672.

Stamford Bridge (*Derwent, York*), Harold defeated Tostig, 1066.

Stilton, a village (Hunts), at which travellers got some cheese from Leicestershire to which they gave the name of "Stilton," though it was never made there.

Stoke (Notts.), near Newark, where Henry VII. defeated the impostor Simnel.

Stourport (10,000), at the junction of the Stour and Severn, has good local trade in coal, grain, and timber.

Strathpeffer, near Dingwall, is now celebrated for its mineral waters.

Stratton (Corn.), where the Royal forces were victorious, 1643.

Swanlinbar, in county Cavan, with mineral waters.

Thame (Ox.), is the place where John Hampden died from a wound he received at Chalgrove field, 1643.

Tilbury Fort (Esx.), (*Thames*), nearly opposite Gravesend, where Queen Elizabeth reviewed the troops on the approach of the Spanish Armada, 1588.

Tippermuir (Perth), Montrose defeated the Covenanters, 1644.

Torbay (Dev.), a fine sheltered harbour, where the forces of William, Prince of Orange landed, 1688.

Towton (York), where 40,000 Lancastrians were slain, 1461.

Tramore (Waterford), a watering-place, with a splendid strand.

Tring (Herts), has manufactures of silk and straw plait.

Twickenham (Midsx.), on the Thames, where Pope resided.

Vinegar Hill (Wex.), near Enniscorthy, where the Irish insurgents were utterly defeated by Lord Lake, 1798.

Wantage, 3,000 (Berks), an ancient town; was the birth-place of Alfred the Great.

Warminster (Wilts), situated at the western side of Salisbury plain; corn trade is carried on; also matting and hair-cloth weaving.

Weighton, a town at the foot of the Wolds (York.), has one of the largest sheep fairs.

Westbury (Wilts.), has gloves, cloth, and iron works.

Wetherby, on the Wharfe (York.), has a magnificent cattle and corn market, great trade in manures, and agricultural implements.

West Calder (Edinb.) is an important rising town, with factories which produce much paraffin oil.

Westminster (see London). In the reign of Edward I. the famous "Statutes of Westminster" were passed. Treaties were concluded here at the following dates:—1259 between England and France; 1654 and 1674, both with the Dutch; and 1870 which guaranteed the integrity of Belgium.

Willenhall (Staff.), where locks, keys, and other iron-works are executed and sent to all parts of England.

Winchelsea (Sus.), a cinque port, is a town of importance.

Wirksworth, in the midst of the mining district of Derbyshire, has lead mines, hat, and hose making.

Wooler (North.), on the Till, in the vicinity of which were fought the battles of Homildon Hill, 1402, Flodden Field, 1513, and Hedgeley Moor, 1464.

Workington, in Cumberland, with great exports of coal to Ireland and a good salmon fishery. Mary Queen of Scots landed here after the battle of Langside.

Worsted, a village in Norfolk, gives its name to well known cloths, made of wool first made here.

Worthing (7,400), on the coast of Sussex, is a watering-place.

Wrington, near Bristol (*Som.*), the birth-place of John Locke.

Wroxeter (*Severn*) a village (Salop) where there are remains of an ancient Roman city.

Yeovil (8,000) (Som.) (*Yeo*), where gloves, leather-dressing, etc., are carried on. There are also some woollen factories. Here Captain Speke, the discoverer of the source of the Nile, accidentally shot himself.

BRITISH COLONIAL EMPIRE.

ASIA.

Colonies.	Area Sq. Miles.	Population.
Bengal, Presidency of,	215,864	35,321,000
Coorg, Hyderabad, and Mysore,	46,452	5,620,000
North-West Provinces,	83,380	30,041,000
Punjab,	101,830	17,611,500
Oude,	23,992	11,200,000
Central Provinces,	114,718	9,100,000
British Burmah,	71,957	2,355,614
Madras, Presidency of,	143,384	26,539,136
Bombay, Presidency of (with Sinde),	108,626	12,407,850
Protected States,	596,790	48,000,000
Hong Kong, (ceded by Treaty, 1842),	29	122,000
Aden (Purchased, 1839),	19	35,000

EUROPE.

Colonies.	Mode of Acquisition.		Area Sq. Miles.	Population.
Gibraltar,	Capture,	1704	1¾	26,250
Heligoland,	Cession,	1814	5½	2,172
Maltese Islands,	Capture,	1800	115	145,802

AFRICA.

Cape Colony	Capitulation,	1806	200,621	600,000
Gambia,	Settlement,	1631	—	14,190
Gold Coast,	,,	1661	6,000	385,000
Natal,	,,	1838	16,000	273,170
St. Helena,	,,	1673	47	6,490
Sierra Leone,	Ceded by Chiefs,	1787	460	41,624
Mauritius,	Capitulation,	1810	708	330,823

NORTH AMERICA.

Bermudas,	Settlement,	1609	20	11,982
British Columbia,	,,	1858	213,000	85,000
Canada, Lower,	Capit. and Session,	1759	210,000	1,190,500
Canada, Upper,	,, ,,	1763	121,260	1,620,222
New Brunswick,	,, ,,	—	27,900	285,800
Newfoundland,	,, ,,	1713	40,200	146,638
Nova Scotia and Cape Breton,	Settlement, at various periods,		18,620	387,800
Prince Edward's Island,			2,170	94,496
Rupert's Land,	Settlement,	1668	2,720,000	270,000

SOUTH AMERICA.

Colonies.	Mode of Acquisition.		Area Sq. Miles.	Population.
Guiana (British)	Capitulation,	1803	76,000	194,000
Falkland Islands,	Cession,	1837	13,000	812
WEST-INDIES,				
Antigua,	Settlement.	1632	108	35,408
Bahamas,	,,	1629	5,000	35,000
Barbadoes,	,,	1605	166	162,272
Dominica,	Cession,	1763	288	29,065
Grenada,	,,	1763	133	37,517
Honduras,	,,	1670	17,000	25,645
Jamaica,	Capitulation,	1655	6,400	506,433
Montserrat,	Settlement,	1632	54	9,000
Nevis,	,,	1628	50	12,000
St. Kitts,	,,	1623-1650	68	28,303
St. Lucia,	Capitulation,	1803	300	31,262
St. Vincents,	Cession,	1763	131	36,000
Tobago,	,,	1763	99	16,963
Tortola,	Settlement,	1665	94	6,000
Trinidad,	Capitulation,	1797	2,000	110,000

AUSTRALASIA.

New South Wales,	Settlement,	1787	323,000	520,000
South Australia,	,,	1836	906,784	186,000
West Australia,	,,	1829	80,000	20,000
Victoria,	,,	1836	86,831	731,528
Queensland,	,,	1859	560,000	115,000
Tasmania,	,,	1803	27,000	102,000
New Zealand,	,,	1839	106,259	256,367

From the above table, it appears that the approximate *area* of the British Empire is 7¾ millions of square miles, and the *population* 240 millions.

In addition to the above, the **Auckland Islands**, about 400 miles S. of New Zealand, are important as a station of the whale fishery in the southern hemisphere.

Norfolk Island, lying a little E. of Australia, was once a penal settlement, and has at present a population of about 500inhabitants, consisting of the descendants of the mutineers of the "Bounty," removed here, at their own request, in 1856.

The British Possessions, will be described in detail under the countries to which they geographically belong.

British Colonies.

Our Colonies, as regards form of government, may be divided into three classes—those having responsible governments, those having representative institutions, but not responsible governments, and those called "Crown Colonies," in which the authority of the Crown predominates. In the first class the countries are almost independent, the crown appointing the governor, and having a veto on their legislation, lest it might clash with imperial interests. These have responsible ministers, who exercise patronage, are subject to change, just as in the imperial government. In the second class the Crown controls all appointments, and the officers of administration are under the Home government. The principal Crown Colonies are Ceylon, Hong Kong, Guiana, Jamaica, Mauritius, Trinidad, the Straits Settlements, and the districts on the West coast of Africa.

FRANCE.*

France separated from England by the English Channel and Straits of Dover, has Belgium on the N. E.; Germany, Switzerland, and Italy on the E.; the Mediterranean and Spain on the S.; and the Bay of Biscay, with a portion of the Atlantic, on the W. This, the most compact country of Europe, has a length, from S.E. to N.W., of 620 miles, and a breadth of about 540 miles.

France lies between the parallels of 42° 20′ and 51° 5′; and between the meridians of 7° 5′ E. and 4° 54′ west longitude. Until the revolution of 1789, this country was divided into 34 provinces, inclusive of the island of Corsica. But at this date it was divided into 86 departments, to which, after the successful war against Austria, in 1859, Savoy and Nice were added from Italy, making, in all, 89 departments. After the defeat of France by Germany, however, in 1870, the provinces of Alsace and Lorraine (half of) were ceded to the latter, leaving only 87 departments to France including Corsica, as at present constituted.

* In this article I am much indebted to M. Cortambert.

PROVINCES AND DEPARTMENTS.

Department	Area. Sq. mls.	Population.	Capital.
ILE DE FRANCE.			
1 Seine	185	1,953,660	Paris on the Seine.
2 Seine-et-Oise	2,141	513,073	Versailles on a plateau.
3 Seine-et-Marne	2,154	352,312	Melun on the Seine.
4 Aisne	2,322	564,597	Laon.
5 Oise	2,218	401,417	Beauvais on the Therain.
6 Somme*	2,343	572,646	Amiens on the Somme.
7 Pas-de-Calais†	2,505	744,338	Arras on the Scarpe.
8 Nord‡	2,170	1,373,380	Lille on the Deule.
CHAMPAGNE.			
9 Ardennes	1,955	329,111	Mézières on the Meuse.
10 Marne	3,156	385,498	Chalons on the Marne.
11 Aube	2,351	262,785	Troyes on the Seine.
12 Marne (Haute)	2,385	254,413	Chaumont on the Marne.
NORMANDY.			
13 Seine-Infer. (*a*)	2,298	769,450	Rouen on the Seine.
14 Eure	2,248	404,665	Evreux on the Iton.
15 Calvados	2,145	478,397	Caen on the Orne.
16 La Manche	2,263	595,202	St.-Loo on the Vire.
17 Orne	2,329	430,127	Alençon on the Sarthe.
BRITTANY.			
18 Finisterre	2,548	606,552	Quimper on the Odet.
19 Morbihan	2,667	473,932	Vannes on G. of Morbihan.
20 Cotes-du-Nord	2,567	621,573	St. Brieuc.
21 Ille-et-Vilaine	2,554	580,898	Rennes on the Vilaine.
22 Loire-Infer. (*a*)	2,595	555,996	Nantes on the Loire.
POITOU.			
23 Vendée	2,595	389,683	Napoleon-Vendée.
24 Sèvres	2,315	327,846	Niort on the Sèvres.
25 Vienne	2,574	322,585	Poitiers on the Clain.
ANJOU.			
26 Maine-et-Loire	2,755	524,387	Angers on the Mayenne.
MAINE.			
27 Mayenne	1,996	373,841	Laval on the Mayenne.
28 Sarthe	2,371	467,193	Le Mans on the Sarthe.

* Picardy † Artois ‡ Flanders.

(*a*) Infer = inférieure = lower.

Department.	Area, Sq mls.	Population.	Capital.
ANGOUMOIS.			
29 Charente	2,300	378,721	Angoulême on the Charte.
30 Charente-Infer.	2,600	467,193	La Rochelle, on a bay.
TOURAINE.			
31 Indre-et-Loire	2,333	318,442	Tours on the Loire.
ORLEANAIS.			
32 Loire-et-Cher	2,389	262,043	Blois on the Loire.
33 Eure-et-Loire	2,117	291,074	Chartres on the Eure.
34 Loiret	2,551	345,115	Orleans on the Loire.
35 Nievre*	2,595	326,086	Nevers on the Loire.
36 Allier†	2,762	352,241	Moulins on the Allier.
37 Creuse‡	2,118	278,889	Guèret near the Creuse.
BERRY.			
38 Cher	2,747	314,982	Bourges in centre of France.
39 Indre	2,624	273,479	Chateauroux on the Indre.
LIMOUSIN.			
40 Vienne (Haute)	2,118	319,787	Limoges near the Vienne.
41 Corrèze	2,218	314,985	Tulle on the Corrèze.
AUVERGNE.			
42 Cantal	2,245	247,665	Aurillac.
43 Puy-de-Dome	3,039	576,409	Clermont.
LYONNAIS			
44 Loire	1,805	517,603	Montbrison on the Vezozy.
45 Rhone	1,066	662,493	Lyons on the Rhone.
BURGUNDY.			
46 Ain	2,258	369,767	Bourg.
47 Saône-et-Loire	3,270	582,137	Maçon on the Saone.
48 Côte-d'Or	3,354	384,140	Dijon on the Ouche.
49 Yonne	2,781	368,901	Auxerre on the Yonne
FRANCHE COMTE.			
50 Saône (Haute)	2,028	317,183	Vesoul.
51 Jura	1,894	298,053	Lons.
52 Doubs	2,028	286,888	Besançon on the Doubs.
DAUPHINE.			
53 Isère	3,163	577,748	Grenoble on the Isère.

* Nivernais. † Bourbonnais. ‡ Marche.

Department.	Area. Sq. mls.	Population.	Capital.
54 Drome	2,508	326,684	Valence on the Rhone.
55 Alpes (Hautes)	2,114	125,100	Gap.
LANGUEDOC.			
56 Ardèche	2,110	388,529	Privas.
57 Loire (Haute)	1,900	305,521	Le Puy near the Loire.
58 Lozère	1,965	137,367	Mende on the Lot.
59 Gard	2,256	522,107	Nimes on the Gard.
60 Hérault	2,382	530,935	Montpelier on the Lez.
61 Tarn	2,185	353,633	Alby on the Tarn.
62 Garonne (Haute)	2,529	484,081	Toulouse on the Garonne.
63 Aude	2,340	283,606	Carcassonne on the Aude.
GUIENNE.			
64 Dordogne	3,492	504,561	Perigueux on the Isle.
65 Tarn-et-Garonne	1,405	234,782	Montauban on the Tarn.
66 Lot-et-Garonne	2,027	340,041	Agen on the Garronne.
67 Aveyron	3,340	393,890	Rodez on the Aveyron.
68 Lot	2,004	293,733	Cahors on the Lot.
69 Gironde	3,714	640,757	Bordeaux on the Garonne.
GASCONY.			
70 Les Landes	3,490	309,832	Mont-de-Marsan on the Midouze.
71 Gers	2,390	304,497	Auch on the Gers.
72 Pyrenees (Hautes)	1,730	245,856	Tarbes on the Adour.
73 Pyrenees (Basses)*	2,862	436,442	Pau on the Gave.
FOIX.			
74 Ariége	1,738	251,318	Foix on the Ariège.
ROUSSILLON.			
75 Pyrenees (Orientales)	1,591	183,056	Perpignan on the Tet.
76 Vaucluse†	1,328	268,994	Avignon on the Rhone.
PROVENCE.			
77 Rhone (Bouches du)	1,956	473,365	Marseilles on Gulf of Lyons

* Bearn and Navarre.

† Avignon, Venaissin, and Oricana.

Department.	Area, Sq. mls.	Population.	Capital.
78 Alpes (Basses)	2,600	149.670	Digne
79 Var . .	2,773	305,308	Toulon on Mediterranean.
SAVOY.			
80 Savoy . .	2,479	318.000	Chambery
81 Do. (Haute) .	1,743	286,000	Chamouni near Mt. Blanc.
82 Alps Maritimes	1,621	192,000	Nice on the Mediterranean
LORRAINE.			
83 Moselle . .	407	90,000	Briey
84 Meuse . .	2,000	270,000	Bar-le-Duc on the Ornain
85 Meurthe . .	15,000	360,000	Nancy on the Meurthe
86 Vosges . .	2,147	418,988	Epinal on the Moselle
87 CORSICA . .	3,331	240,183	Ajaccio on W. coast

[Get off the capitals and their situation on map from previous table.]

Ile-de-France at first was so named on account of its being surrounded by the Seine, Marne, Aisne, Oise, etc. It is a beautiful district, the once "Royal Domain;" and the nucleus around which the remainder of the country became settled. In early ages it was the chief possession of the Crown.

1. **Seine** occupies the very centre of the province, and is studded with delightful mansions, villas, and gardens, including the city of Paris, and most of its beautiful suburbs.

Paris (1,800,000) has long maintained the first place among European capitals as the centre of taste and fashion. Its public buildings in variety and elegance vie with those of every other city, ancient or modern. It stands on both banks, and on two islands (City Island, and St. Louis) in the river, being beautifully laid out with magnificent squares, parks, gardens, fountains, palaces, churches, museums, libraries, and monuments. It is elegantly constructed, consisting of straight and regular streets and terraces, running either parallel to, or at right angles with, the course of the stream, and all admirably paved and drained. Paris is particularly noted as a seat of the fine arts, painting, sculpture, etc., and is the chief pioneer in producing every variety of articles of fashion.

Among the *treaties* of Paris are that of 1763, in which Great Britain was interested; that of 1814, which led to the abdication of Napoleon I.; that of 1856, which ended the Crimean war. Its

revolutions of 1789, 1830, 1848, and 1870, are equally important; its siege by the Germans, and its lamentable civil war afterwards, in which the Communists figured (1871), are within the memory of all.

St. Denis (22,000), N. of Paris, was, until the Revolution, the burying place of the French kings. It is rich in sculpture and painting. Vincennes (10,000), to the E., is in a well-wooded district. It has an arsenal and a state prison. Here the Duke d'Enghien was shot (1804) by order of Napoleon. Auteuil (6,360) is a suburb of Paris.

2. **Seine-et-Oise** surrounds the former department on all sides, and is very productive in grains, vegetables, and fruits.

Versailles (61,000) (*Oise*), has the magnificent palace, with long galleries of paintings, on which Louis XIV. lavished the resources of the country. It stands on a plateau, has an ancient castle, commerce in grain, and is connected with Paris by a railway on each side of the Seine. A treaty made here in 1783 secured independence to the United States of America. St. Cloud (*san-cloo*) had a beautiful castle, which was burnt, 1871, and a park; also an annual fair. Sevres (5,000), a pretty place, is famed for porcelain and coloured glass. Mantes (5,500) (*Seine*), a pretty town, was burnt by the Conqueror in 1096, a few days after which he received the hurt which caused his death. Etampes (10,600) is in the S., with wool and flour trade. Pontoise (6,000) (*Oise*), has the remains of an ancient castle, and supplies Paris with veal and flour.

3. **Seine-et-Marne** is in general a fertile and an agreeable province, producing, in addition to the articles mentioned in the previous department, wines and raisins.

Melun (10,000) (*Seine*), stands on the railway between Paris and Lyons.

Fontainebleau (10,000) (*Seine*), is remarkable for two historical incidents—the signing of the abdication of Napoleon (1814), and the revocation of the edict of Nantes (1685)—both perfected in its chateau. Meaux (10,000) (*Marne*), is called the corn mart of Paris. It has a cathedral.

4. **Aisne**, in the N.E., is watered by three rivers, the *Oise*, *Aisne*, and *Marne*, all of which are united by several canals. The surface is, generally speaking, diversified.

Laon (10,000) (*Aisne*), is a strong fortress on a hill in the midst of a wine country, at which some German troops were blown up after entering it, 1870. A battle was fought here in 1814 between Napoleon I. and the Allies.

St. Quentin (30,000) is a flourishing cotton seat. It produces the best table linen. Here, in 1557, the Spaniards defeated the French. Soissons (10,000) (*Aisne*), an old town, was the capital of Clovis, the first Christian King of France—taken by the Germans, 1870.

5. Oise, an agreeable province much covered with plantations, produces luxuriant crops of wheat and other grain.

Beauvais (12,000) has important cloth manufactures, cotton and tapestry-making, and a cathedral with the loftiest choir in the world. Clermont (30,000) has an ancient castle, which is now used as a prison. Compiègne (10,000) (*Oise*), with a castle and a forest, has been used by Napoleon III. as an imperial hunting seat. When Gaul was a Roman province, the military stores and arms were kept here. Here, also, Joan of Arc was made prisoner before her execution. Noyon (6,000) (*Oise*), was the birthplace of Calvin. It has trade in linen, hats, etc.

6. Somme corresponds very nearly to ancient Picardy. Agriculture is pursued on an improved system; and its manufactures of linen, sugar, and cider, are important.

Amiens (65,000) (*Somme*), with woollen manufactures, is a great railway centre, 82 *m.* from Paris; has a beautiful cathedral, manufactures of velvet and Kerseymeres, and was the birthplace of Peter the Hermit. In 1802, a treaty was concluded here between England and France, when the former for the first time acknowledged the French republic. It was taken by the Germans, 1870, and contributions levied.

Abbeville (20,000 (*Somme*), is a nice town, with some cloth-making. Ham (17,000) (*Somme*), is a strong fortress, in which Napoleon III. was imprisoned several years, 1840-6. St. Valery (*Somme*), is a small port, whence the Conqueror set sail for England, 1066. Cressy, or Crecy, a village, was the scene of the victory of Edward III. and the Black Prince over the French, 1346.

7. Pas-de-Calais, lying on the Straits of Dover, is a flat province of considerable fertility.

Arras (25,000) (*Scarpe*), a strong fortress and a well-built cathedral town, has linen and tapestry manufactures.

Calais (15,000) (*Straits of Dover*), the chief port for England, is a good town, well fortified, and surrounded by a moat, having a gate towards the sea and another towards the land. Its commerce is very considerable. Calais was taken by Edward III., after a siege (1347). It was retaken in 1558, by the Duke of Guise. Boulogne (35,000) is

a good watering-place on the Channel, 29 *m.* from Folkstone. Here Napoleon I. assembled a large force (1804), with which he intended to land on the coast of England, and a splendid monument commemorates the abortive attempt. Agincourt was the scene of a victory by Henry V., in 1415. At Guinegate the "Battle of the Spurs" was fought, 1513. St. Omer (50,000) is the seat of an important collegiate establishment. Bethune is on the Lys.

8. Nord or French Flanders, was annexed to France in 1668. It is rich, fertile, and thickly peopled; produces abundance of flax, wheat, sugar, and tobacco.

Lille (130,000) (*Deule*), is a strong fortress; a chief railway centre, with linen and cloth manufactures. This town sustained several sieges, the most important of which were in 1708 (when taken by Marlborough), and in 1792.

Cambray (20,000) (*Scheldt*), a strong town, has cloth manufactures, and gave name to the fine muslin, cambric. It had the famous Fenelon for archbishop, and possesses a valuable public library. Dunkirk (36,000) (*N. Sea*), is the most N. port of France, and has active trade. It was taken by the French General Turenne from the Spaniards, and given to the English, 1658. Charles II. sold it in 1662 to the French. Valenciennes (25,000) (*Scheldt*), stands on the railway from Paris to Brussels. Its manufactures of lace are very extensive. Douay (20,000) (*Scarpe*), has a college, once of considerable celebrity. Malplaquet was the scene of a victory of Marlborough and Eugene over the French under Villars, 1709.

9. Ardennes is rather hilly. There are two nice valleys, that of the *Meuse* and that of the *Aisne*. It produces iron and marble, and has an active manufacturing industry. In its forests the wild boar is still hunted.

Mézières (5,000) (*Meuse*), is a well-fortified town, which often retarded the armies of the foes of France.

Sedan (15,000) (*Meuse*), has long been noted for its cloth manufactures. It was the scene of the disastrous overthrow of the French under Napoleon III. (1870), when he, with 90,000 men, became prisoners of the victorious Germans. Rocroi is a strong place, near which Condé defeated the Spaniards, 1643. Rethel (7,000) (*Aisne*), is the site of a battle, in 1650. Bazeilles was the scene of a sanguinary engagement between the French and Germans, 1870, when the town was burnt almost to ashes. Charleville has an arms factory.

10. Marne, in the heart of Champagne, is a very fertile department, except in the S., where there are some sterile plains. It produces wines of world-wide celebrity.

Chalons (17,600) (*Marne*), on the railway from Paris to Strasbourg, is the seat of a great camp of the French army. It has wine trade, and woollen factories. Several bridges span the river, which divides the town into three parts.

Rheims (50,000) (*Vêle*), has a magnificent cathedral in which the French kings were wont to be crowned—one of the principal seats of the wine trade. Valmy was the scene of a victory of the French over the Prussians in 1792. Sezanne has tanneries. It was taken by the English in 1423, and by the Calvinists in 1566. Epernay (7,500) (*Marne*), is noted for wines.

11. Aube lies further south on the rivers Aube and Seine, and has considerable wine trade, though not a fertile district. Bees are carefully tended in this department.

Troyes (35,000) (*Seine*) adds to cotton, trade in millinery, and paper. It has a magnificent cathedral and an old castle, long the residence of the Counts of Champagne. Here the treaty was made between Henry V. of England and Charles VI. of France which declared the former heir to the French throne, A.D. 1420.

Nogent, Brienne, Clairvaux, and Mery (where the Seine becomes navigable), are in this department.

12. Marne-Haute has in the S. some hills and elevated districts, in which the rivers Marne, Meuse, and Aube originate. Iron and timber constitute its staple productions.

Chaumont (*Marne*) is an industrious town, with glove-making. Here the allies entered into a compact (1814), declaring they would not lay down arms until Napoleon should be dethroned.

Langres (11,000) is the principal seat of the French cutlery. St. Dizier, where the navigation of the Marne begins, was the scene of two battles in 1814. Vassy is remarkable for the massacre of the Huguenots in 1562.

13. Seine-Inferieure, or Lower Seine, is probably the most beautiful, most industrious, and most commercial department of France. The *Seine* winds through the district and forms a bore at each tide.

Rouen (102,000) (*Seine*), nicely built, 70 *m.* from the sea, has a splendid cathedral and fine public buildings. Besides its extensive commerce, its cotton, leather, and paper factories are important. The Conqueror died here, 1087; and here Joan of Arc was burnt as a witch, 1431. In 1870 it was taken and held for several months by the Prussians.

Havre* (86,000) (*English Channel*), one of the four great French ports, may be considered the port and watering-place of Paris. It has excellent docks, and extensive commercial intercourse with all countries in the world. It has good tobacco, oil, and rope factories, with ship-building, spinning, and weaving. It was bombarded by the English 1694, 1759, 1794, and 1795. Dieppe (19,000) (*Eng. Channel*), is a port and bathing place, with active traffic both by river and rail, and a packet to Newhaven. Harfleur (4,000) (*Seine*), stands at the mouth of the river. Here Henry V. landed to invade France, 1415. Elbeuf (19,000) (*Seine*), has important cloth manufactures, and is called the "Leeds" of France. Forges has mineral springs.

14. Eure is also traversed by the Seine, and has a flourishing agricultural and manufacturing trade.

Evreux (12,000) (*Iton*), has a beautiful cathedral. Louviers (10,000) (*Eure*), has cloth manufactures. Verneuil, with a great onion fair, was the scene of a victory of the English under Bedford over the French, 1424.

15. Calvados contains good pastures. It is rich in potatoes, wheat, cider, and poultry.

Caen (41,000) (*Orne*), an industrious town, is well built, and has considerable trade. It was plundered by the English, 1346.

Honfleur (10,000) (*Seine*), nearly opposite Harfleur. Formigny, where the English were defeated by Charles VII. of France in 1450, Falaise (9,700), the birthplace of the Conqueror, has some factories and a splendid Norman castle; and Bayeux has manufactures of well-known and much-prized tapestry.

16. La Manche is also rich in pastures, and contains the prominent point, Cape *La Hogue*.

St. Loo (8,000) (*Vire*), has a good cathedral, and some local trade.

Cherbourg (36,000) (*Divette*), one of the four naval arsenals, was greatly strengthened and enlarged by Napoleon III. Granville (10,000), and Avranches (8,600) stand on the west of the peninsula. The latter, which has been the resort of persons of limited means, is the best starting-point for Mt. St. Michael, which lies beyond several dangerous quicksands†. Barfleur, now much decayed, was the place whence William, son of Henry I., set sail, and was lost in the "White Ship." La Hogue (1,120) a little further S., was the scene of a victory over the French by Admirals Russell and Rooke, 1692—often confounded with Cape La Hogue.

* A contraction for "Le Havre de Notre Dame de Grace." Havre=Aver (Celtic)=port. The tide is very peculiar, remaining full, or nearly so, for three or four hours.

† The crossing of these is often dangerous, owing to the rapid return of the tide in a swell. A young baronet of the county Antrim, a few years ago, was caught by it, and would have been drowned, had not his Newfoundland dog dived, and brought his insensate body to dry land.

17. **Orne** is watered by a river of the same name, and produces much fruit and cider.

Alençon (16,000) (*Sarthe*), a cathedral town, has active trade in agricultural produce, linen, and lace.

Tenchebray is a small village where Henry I. defeated his brother Robert, 1106, whom he afterwards kept in prison 28 years.

18. **Finisterre** comprehends the western part of Brittany. The descendants of the ancient Britons still preserve their language and customs, but are rather indolent and violent, though possessing much sound sense. The coast is marked by many small headlands and small creeks, but the interior is hilly and mountainous.*

Quimper (12,000) (*Odet*), is the principal head-quarters of the pilchard-fishery of France. It has linen and porcelain factories.

Brest (66,000) is not only one of the great commercial ports, with extensive trade, but one of the four great French naval arsenals. It has splendid quays, docks, and very active shipping; and a submarine cable to America. Morlaix (13,000) (*Eng. Channel*), is a safe port, with a commercial college.

19. **Morbihan** "(Little Sea)" produces some good cheese, and has active fishing along the coast.

Vannes (14,000) has active trade in fish and grain.

L'Orient (21,000), the seat of a famous engineering school, is an active commercial depôt, one of the chief seats of the navy. Auray is a small town where a battle was fought between the Counts of Blois and de Montford, 1364. Quiberon is near the bay of the same name, in which the British fleet under Hawke gained a victory over the French fleet in 1759.

20. **Cotes-du-Nord** is an industrious department, particularly in agricultural pursuits.

St. Brieuc (15,000) has many paper mills. Dinan (9,000) (*Rance*), is a picturesque town, with charming walks, and views in the vicinage.

* Off the isle of Ushant the French fleet was defeated by the English, 1794.

21. **Ille-et-Vilaine** touches the Channel. Though the soil is not generally fertile, there are excellent pastures, and good dairies.

Rennes (33,000) stands at the confluence of the Ille and the Vilaine, and has an active and increasing trade in butter and honey. It has a small university. St. Malo (10,000) is an active port, and the residence of many Englishmen. St. Servan (12,000), standing a few miles distant, has a little trade.

22. **Loire-Inferieure** contains some fertile districts, with a lake in the south named *Grand-Lieu*.

Nantes (118,000) (*Loire*), is a rich commercial city, fifth in population of all French towns, with St. Nazaire as its outer port. Its brandy export trade is most extensive. It was formerly the residence of the dukes of Bretagne, and contains 20 squares and 17 churches. The "Edict of Nantes" was granted here, 1598, by Henry IV. in favour of the Huguenots; and was revoked by Louis XIV. in 1685, when some thousands of inhabitants emigrated to the British Isles and Germany. From this port the young Pretender sailed in disguise in 1745.

23. **Vendée** is mountainous and much covered with plantations on the S., but marshy in the S.W. The rest of the surface is level. Its inhabitants are of simple manners and cling to their old customs. It has been the scene of great religious and political persecutions.

Napoleon-Vendée (6,000) is a pretty town; though much improved by Napoleon I., it has never really prospered.

24. **Sevres** lies further E., is mountainous in the north but flat towards the south.

Niort (2,000) (*Sevre*) has manufactures of cloth and gloves, and stands in a wine-producing country. Chatillon is remarkable for a victory of the Vendeans over the republicans, 1793.

25. **Vienne**, still further E., has splendid pastures, good wines, and extensive forests.

Poitiers (25,100) (*Clain*), 210 *m.* from Paris, is an ancient town with a good cathedral, and extensive trade in grain, leather, and wool. Here the Black Prince defeated and took prisoner King John of France, 1356.

Vouille, near the above, is the place where Clovis defeated the Visi-Goths in 507. Chatellerault (12,000) (*Vienne*), a cutlery town, called the French "Sheffield," gives the title of Duke to a Scotch family, Hamilton.

26. **Maine-et-Loire** is the ancient *Anjou*. It is fertile, and produces much grain, with highly-esteemed wines.

Angers (50,000) (*Mayenne*), stands 216 *m.* from Paris, and has an active wine trade, with trade in linen, grain, etc. It has an old castle and a cathedral.

Saumur (11,600) (*Loire*), is one of the cavalry schools. It was taken by the Vendeans in 1793, but retaken in 1794. It is built of pure white stone, and has a beautiful aspect. Beaupreau is noted for large cattle fairs.

27. **Mayenne** has an undulating surface, and produces wheat, timber, and fruit in great quantities.

Laval (20,000) (*Mayenne*), has local trade and some cotton factories. Mayenne (10,000) and Craon have but little trade or industry.

28. **Sarthe** is covered with numerous plantations; although a rather flat surface, it is well tilled.

Le Mans (37,000) (*Sarthe*), the birth-place of Henry II., has trade in agricultural produce and fowls. It was taken by the Germans, 1870.

La Fleche (1,000) (*Loir*), has a military school.

29. **Charante** is covered with hills and valleys, and is a good wine country. Its brandy is much esteemed.

Angoulême (25,000) (*Charanté*), on the railway from Tours to Bordeaux, has extensive paper and woollen factories. Here the Black Prince resided after the battle of Poitiers. It has a public library of 30,000 volumes.

Cognac (5,000) (*Charante*), is the seat of an extensive brandy trade. It gave birth to Francis I. of France. Jarnac is a small town where the Huguenots were defeated (1569), and the Duke of Condé, their chief leader, killed.

30. **Charante-Inferieure** has a coast indented with many bays. It produces wines and brandies.

Three isles belong to it:—Ré, which produces wine and salt; Oleron, of great fertility, where Richard I. formed a code of maritime laws on his return from the Crusades; and Aix, opposite the mouth of the river, forming, with the Charante, a safe roadstead.

La Rochelle (16,000) (*Bay of Biscay*), a strongly-fortified town, with sugar refineries, trade in wine, and very extensively in brandy, was the stronghold of the Huguenots, and sustained a siege in 1528; and when taken, after fourteen months, it was found that only one-fifth of the inhabitants survived.

Rochefort (30,000) (*Charante*), is one of the four French naval arsenals. It is a nicely-built town; has a cannon foundry, some shipbuilding, and local trade. It exports, packed in tea-foil, a peculiar kind of cheese. Here Napoleon I., in 1815, gave himself up, and became a prisoner of Captain Maitland, of the "Bellerophon."

31. Indre-et-Loire is a beautiful country, which produces abundantly wines, fruits, etc.

Tours (40,000) is a great railway centre, with a magnificent cathedral, and manufactures of cloth and silk. Here Charles Martel defeated the Saracens, 732; and here the French parliament met during the siege of Paris, 1870-1.

Chinon, on the *Vienne*, has ruins of an old castle. Henry II. died here, 1189: and King John made a peace with Philip of France, 1214.

32. Loir-et-Cher, to the N.E., so named from the two rivers by which it is traversed, is a very fertile country in the north, but sterile in the south.

Blois (18,000) (*Loire*), on the railway from Orleans to Tours, has remains of an ancient castle, in which dwelt many of the French kings. It has extensive trade in corn, wine, brandy, and fruit.

Vendome (*Loire*) has some trade, and Freteval was the scene of an important victory of Richard I. in 1194.

33. Eure-et-Loir is a rich country, celebrated for the abundance and luxuriance of its grain crops.

Chartres (17,000) (*Eure*), has trade in agricultural produce, and a cathedral. It is noted for a great corn market.

Dreux (16,000) was the scene of an engagement in the religious wars, 1562, and again in 1870, between the Germans under the Duke of Mecklenburgh, and the French under Kératry, which resulted in favour of the former after much fighting.

Bretigny is remarkable for a treaty in 1360, when Edward III. renounced all claims to the French crown. Chateaudun (*Loire*) has manufactures of blankets. It was also the scene of a battle in the late war of 1870.

34. **Loiret**, through which the Loire winds, is rich in grain, wine, and timber.

Orleans* (50,000) (*Loire*), is a great railway centre. It has a magnificent cathedral. Here the river is crossed by a splendid bridge. This city has very considerable industry, including sugar refineries, cloth-making, trade in wine and vinegar, etc. The country around is beautifully wooded.

Coulmiers, a few miles distant, was the scene of a defeat of the Germans by the French raw levies, 9th November, 1870, who entered Orleans next day. Gien (5,090), is also on the Loire, crossed here by a handsome bridge. Montargis (8,000) (*Loing*) has tan-yards, paper mills, and trade in corn. Patay (1,200), is a village where Joan of Arc so inspired the French that the English were defeated, and Talbot made prisoner, 1429.

35. **Neivre** is mountainous on the E. It has rich iron mines, and is well wooded (one-third of the surface being forests), and watered by the Loire and other rivers.

Nevers (17,000) (*Loire*), has iron foundries, and trade in porcelain, wines, and steel; but it is irregularly and badly built. Cables and anchors are made in great numbers.

Cone (*Loire*), is noted for cutlery, and anchors for the navy.

36. **Allier**, further S., is traversed by the river of the same name; is mountainous on the west, but it has some very fertile valleys. Oak timber is supplied from its forests, and excellent fish from its rivers.

Moulins (18,000) (*Allier*), is the birthplace of the Duke of Berwick and the famous Marshal Villars. It was the residence of Lord Clarendon when he wrote his history of the "Great Rebellion." Silk, wine, corn, and timber trade are the chief industries.

Vichy (*Allier*), 250 *m.* S.E. from Paris, has much-esteemed mineral waters. The town is frequented by the best society.

37. **Creuse** is very mountainous, and has no particular industry, save agriculture, which is backward here.

* This city was besieged by Attila in 450; and by the English in 1428, who were repulsed on the appearance of Joan of Arc before its walls, 29th April, 1429. Near it three severe battles were fought in the late Franco-German war, 1870.

Gueret (25,000), on a hill, has trade in cattle; and Evaux (3,000), has mineral springs.

38. Cher has beautiful pastures and rich iron mines, but is unproductive in the north, where there are ranges of low hills. Iron and coal are sparsely found.

Bourges (31,300), an ancient town at the junction of the *Evre* and *Auron*, 146 *m.* S. of Paris, has a splendid cathedral. It has cloth and linen manufactures, with iron and silk trade. It is one of the principal arsenals of the country.

Sancerre (4,000) has splendid wines, and trade in marble, found in the neighbourhood. St. Amand (*Cher*), has an agricultural market.

39. Indre has very many marshes, but extensive pastures, on which are grazed numbers of sheep and oxen.

Chateauroux (13,000) (*Indre*), has trade in grain, a woollen factory, a good cattle market, and manufactures of military weapons. A good iron mine is near the town.

40. Vienne-Haute is rich in minerals, and has good pastures, on which many horses are reared.

Limoges (40,000) (*Vienne*), has porcelain, glass, cotton, paper, and woollen manufactures, a cathedral, and a university. Richard I. was wounded here.

41. Correze is a mountainous and picturesque district, eminently agricultural.

Tulle (12,000), has manufactures of firearms, and trade in iron and copper. Here a kind of silk stuff was invented, called *tulle*, which, however, is no longer made here.

42 Cantal contains some of the Auvergne mountains, and is a poor country, whose inhabitants are much engaged in tending flocks of cattle and sheep. Chestnuts are much used as food.

Aurillac (11,000), is a town with some agricultural trade. It has an ancient monastery.

43. **Puy-de-Dome** is from its natural curiosities a very interesting district, with grottoes, basaltic columns, and picturesque mountains. It is rich in cereals. Here are some of the most celebrated peaks of the Auvergne mountains; Mt. d'Or, Puy-de-Dome, etc.

Clermont (35,000), has manufactures of woollen stuffs, and stands in the heart of the extinct volcano region. Here the first Crusade was proclaimed by Peter the Hermit, 1095. (*See Amiens*).

Thiers (15,000), in the N.E., has much cutlery; and Dore has mineral waters. Riom (13,000), with a college, is a well-built town, constructed of lava from a neighbouring quarry.

44. **Loire** to the E. is touched by the Rhone on the S.E., and traversed by the Loire. It contains rich coal mines, excellent pastures, and extensive plantations of pine.

Montbrison (7,000), has a normal school and a library.

St. Etienne (110,000) (*Furens*), is one of the most industrious towns of France—a great iron and coal seat, including, cutlery, fire-arms, hardware, etc.

Rive de Gier (14,000) (*Gier*), is in the midst of valuable coal fields, and has thriving manufactures. Roanne (17,000) (*Loire*), is well built, and has calico, muslin, linen, glue, and cotton manufactures.

45. **Rhone** is, next to the *Seine*, the smallest French department; it is, on the W., hilly and produces much wine.

Lyons (330,000), is the second town in France for population, and the first for manufactures. It has some excellent public buildings, and has produced many eminent men. For silk manufactures it ranks first among European towns. It has many splendid squares, wide streets, and is strongly fortified. The Rhone is crossed by eight and the Saone by nine bridges. The city has a delightful situation, but its importance is of recent growth. It suffered much from the Revolutionists in 1793, the inundations of 1840 and 1856, and the riots of its operatives in 1831 and 1834. Besides silk, it has cotton, woollen, jewellery, silver and gold-lace factories; and ranks next to Paris in printing, publishing, and bookselling.

Tarare (10,000), and Ville-franche (8,000), have also important manufactures of a similar nature.

46. **Ain** to the E. is traversed by the Jura range, but on the W. there are fertile plains. Agriculture is the chief industrial occupation of the inhabitants.

Bourg (12,000), has no important industry, save trade in corn and cattle. The other towns are small and unimportant.

47. **Saone-et-Loire** is traversed by the Côte d'Or mountains. The department is rich in wine, coal, grain, pasture land, and timber.

Magon (16,000) (*Saone*), is a nice town, with an extensive wine trade (to one quality of which it gives its name), with manufactures of jewellery. It is an ancient Roman town, with two of its gates still perfect.

Autun (12,000) (*Arroux*), an ancient town, is also noted for its wine trade, particularly *Chablis*. A portion of its wall, with two of the gates, still remain.

Chalons (18,000) (*Saone*), a strong town with much commerce, is at the head of the navigation of the river Saone. Digoin is one of the towns much engaged in the Burgundy wine trade. It stands near the Loire.

48. **Cote d'Or** is so named from the chain of mountains which runs through it from north to south. Its wines are valuable. Honey, game, and fish are plentiful.

Dijon (30,000) (*Ouche*), is a great wine centre, and has both a cathedral and a university; also an ancient palace of the Dukes of Bungundy.

Beaune (11,000), has also excellent wine trade. Chatillon (5,000) (*Scine*), was the seat of a congress in 1814. This town was taken from the Germans by the son of Garibaldi, by surprise, Nov. 1870.

49. **Yonne** is remarkable for forests and fine rivers, unsurpassed by those of any other department.

Auxerre (15,000) (*Yonne*), has great trade in wine, a cathedral, a college, and a public library of 50,000 volumes.

Sens (11,700), (*Yonne*), is a cathedral town, remarkably clean and sprightly. Chablis is noted for its white wines, now extensively used.

50. **Saone (Haute)** is, in minerals, one of the richest districts of France. It has numbers of smelting furnaces.

Vesoul (6,000) is a pretty town at the foot of a hill of same name. Gray (7,000) (*Saone*), where the navigation of the Saone begins, has trade in iron and grain. Belfort (8,000) (*Doubs*), with a strong castle, made a heroic resistance to the Germans in the late war.

51. **Jura** touches on Switzerland, and is traversed on the E. by the chain of mountains from which it is named. It is rich in grain crops and its horses are much esteemed.

Lons (8,000) is a small town, with trade in salt.

Dôle (11,000) (*Doubs*), has some transit and some other local trade. St. Claude (6,000) has trade in ivory and tortoise-shell. Salins has large salt works.

52. Doubs is traversed on the S.E. by the Jura mountains. The canal of the Rhone and the Rhine passes through Doubs, a district of good pastures and forests.

Besançon (36,000) (*Doubs*), is a fortified town, with extensive trade in jewellery. It has a cathedral, a library, and an academy of painting and sculpture.

Pontarlier (8,000) is near the Swiss frontier, at the entrance to one of the passes of the Jura mountains.

53. Isère is bounded on the N. and W. by the Rhone; and a portion of the Alpine system spreads through the department. On the hills are good pastures, and mines of iron, silver, and lead also abound in this district.

Grenoble (31,000) (*Isére*), with a university and a library of 70,000 volumes, is a chief seat of glove-making, and trade in chamois leather. It was the first town whose gates were opened to Napoleon I. on his escape from Elba, 1814.

Vienne (20,000) (*Rhone*), is an old town, with many Roman remains, among others a theatre. It has cloth mills and iron works. Allevard is a mining town with mineral waters.

54. Drome resembles a kind of amphitheatre, formed of the spurs of the Alps, which extend as far as the banks of the Rhone. The soil is naturally sterile, but has, by an extensive system of irrigation, become productive.

Valence (17,000) is an old, ill-built town, with silk and wine trade. Romans (10,000) (*Isére*), has active commerce, with extensive culture of mulberry trees in the neighbourhood.

55. Alpes (Hautes) is covered on the N.E. by the Alps, presenting many glaciers near the top, forests on the sides, and, still lower, rich pastures and smiling valleys. The only important river is the impetuous *Durance*.

Gap (8,000) is a very ancient cathedral town. Briançon (*Durance*), in an almost impregnable position, is the most elevated town in France, and the highest fortress in Europe.

56. **Ardeche** is bounded on the N.W. by the Cevennes and on the E. by the Rhone. This district has many natural curiosities, and several good pastures.

Privas (5,000) has trade in leather, and is nicely built on a gentle slope. Annonay (13,000) is the most important town in the department, and has paper mills, silk factories, etc.

57. **Loire (Haute)** corresponds to the ancient country of *Velay*. The *Cevennes* touch upon its E. borders, and the hills of *Forez* traverse it. Here are several traces of extinct volcanoes, with many cascades, fantastic rocks, etc.

Le Puy (17,000) stands picturesquely on a sharp rock near the Loire, and has trade in lace, woollens, and leather. It has a cathedral, museum, college, library, and many other public institutions.

58. **Lozere**, rich in minerals, is so named from a high peak in the Cevennes mountains; and in its highlands the rivers Allier, Tarn, Lot, and Gard, have their sources.

Mende (7,000) (*Lot*), nicely built, has trade in serge, etc., and a beautiful cathedral with two spires.

59. **Gard** is mountainous on the N.E., and extends to the Mediterranean on the S., where numbers of lagoons are formed in the midst of coast salt marshes. There are some iron mines, and vines, olives, and mûriers flourish.

Nismes (60,000) is said to have "more Roman remains than Rome itself," including an amphitheatre, aqueduct, fountain, etc. It has trade in silk, dried fruits, oil, and wine.

Alais (20,000) (*Gardon*), has coal in its vicinity. It manufactures silk ribbons. It has a school of mines, founded in 1845. Beaucaire (12,000) (*Rhone*), has large and important fairs, and is an important railway centre.

60. **Herault** lies along the Mediterranean, where salt marshes are numerous. Its climate is very mild. The surface, though mountainous in the N., has many fine plains.

Montpellier (50,000), at a short distance from the Mediterranean, enjoys a delightful climate, and has a celebrated medical school, with a splendid botanic garden, cloth factories, and an increasing trade in wine, wool, and brandy.

Beziers (24,000) (Canal *Du Midi*), is nicely situated, and has brandy trade. Cette (20,000), on a tongue of land, has considerable trade. Ganges has trade in silk, and Clermont in cloth.

61. Tarn is mountainous on the N. and E.; on the W. it consists of plains and valleys, which have a fertile soil.

Castres (20,000) is a good town, with industry in mining and manufactures. It is the birthplace of Rapin the English historian.

Albi (15,500) (*Tarn*), has manufactures of woollens and cottons, iron works, and paper mills. It was a stronghold of the Albigenses in the twelfth century. Mazamet (10,000) is an important town.

62. Garonne (Haute) abounds with excellent wines, cereals, and fruits. It is level in the N., but is hilly where it is bordered by the Pyrenees.

Toulouse (100,000) (*Garonne*), is an important commercial town, with some excellent public buildings, a cannon foundry, and an active, increasing trade. Here Wellington defeated Soult in 1814.

St. Gaudens (5,000) commands splendid views of the Pyrenees, and has trade in china-ware, tiles, leather, and glass.

63. Aude, further E., is to a great extent mountainous. Here the olive and fig reach to the greatest perfection. White and red wines of good quality are produced in large quantities for home and foreign consumption.

Carcassonne (20,000) (*Aude*), is a quaintly-built old town, with trade in brandy, wines, and minerals.

Narbonne (10,000), on a creek, has long been noted for the superior quality of its honey; and Limoux (8,000) (*Aude*), for its excellent wines. Montreal (3,000) stands on a hill, and commands a splendid view of the mountains of the neighbourhood.

64. Dordogne has, generally speaking, an unproductive soil, a hilly and rocky surface, only fertile in some of the low grounds. Its truffes are the best in France.

Perigueux (15,000), with a good cathedral, has many antiquities, with manufactures of nails and cutlery.

Nontron, with cutlery, Bergerac (*Dordogne*) with wines, and Miremont, with beautiful grottoes, only require to be named.

Libourne (10,000) (*Dordogne*), is a pretty, well built town, founded by Edward I. of England.

65. Tarn-et-Garonne is chiefly formed of plains and valleys, which produce excellent fruits.

Montauban (25,000) has trade in silk, stockings, drugs, and spices. In 1629 it was taken after a siege, being then a stronghold of the Huguenots. It has a Protestant seminary, suppressed in 1629, but re-opened, under the first empire, 1810.

66. **Lôt-et-Garonne**, consisting of several plains, is beautifully watered by the Garonne and its tributaries.

Agen (17,000) has considerable trade in fruit, being in the midst of plum orchards, which yield an inexhaustible supply.

Villeneuve (13,000) (*Lôt*), has active trade.

67. **Aveyron** contains several spurs of the Cevennes, as well as wide plains of considerable fertility.

Rodez (10,000) (*Aveyron*), has a beautiful cathedral.

68. **Lôt** is to a great extent hilly and mountainous, with some valleys interspersed, in which there is a rich soil, producing good crops.

Cahors (13,000) (*Lôt*), a cathedral town, has an active trade in wine and tobacco.

69. **Gironde**, on the Bay of Biscay, is a beautiful district, presenting great variety of surface—rich plains, delightful valleys, smiling vineyards, and extensive pine forests, and yet bleak hills.

Bordeaux (194,000) (*Garonne*), ranks fourth in population among French cities. It is a magnificent port, with extensive commerce in wines and brandy, vinegar, dried fruits, hams. It also has glass, lace, cotton, and woollen factories. It is the seat of a cathedral of great antiquity, a university, and an academy of sciences. The English held it from 1132 to 1457. It is the birthplace of Richard II., and of the Black Prince, being the scene of his prodigal court for a few years before his death.

Libourne (11,000) (*Dordogne*) is an active port, with numerous interesting antiquities. Castillon is a battle-field on which Charles VII. defeated the English in 1453.

70. **Landes**, very sparsely peopled, runs along the coast. Here we meet several lakes. It is chiefly watered by the *Adour* and *Gave*. Much fruit is produced; but most of the country presents a sterile appearance, and the lower districts are often covered with water: along the sea shore shifting sand hills are met. The inhabitants walk on stilts very much, and are very agile in their movements.

Mont-de-Marsan (5,000) (*Midouze*), has a pleasant position, and trade in wine and brandy, with resin from the forests of pine in the vicinity.

Dax (6,000) (*Adour*), has excellent baths and mineral waters, with trade in brandy and hams. St. Esprit, a busy port, is chiefly inhabited by Jews who were driven from Spain.

71. Gers, watered by the Adour, is flat in the N. but mountainous in the S. On the whole, the district is fertile: much brandy is produced.

Auch (12,000) (*Gers*), has a cathedral, and some trade in woollens, wines, cattle, linen, and leather. The streets are mostly narrow.

72. Pyrenees (Hautes) is one of the most interesting districts of France—its picturesqueness, delightful valleys, fantastic cascades, abundance of mineral wealth, etc., are equally attractive. In the N. are fertile plains; in the S. high mountains, including the most elevated peaks of the French Pyrenees, Mount *Perdu* being on the border.

Tarbes (15,000) (*Adour*), is a nicely-built town, where an active general trade is carried on. It has an excellent horse fair; and is the resort of travellers to the mountains.

Bagnères (8,000) (*Adour*) has mineral waters; Campan marble quarries.

73. Pyrenees (Basses), extends from the mouth of the Adour to that of the *Bidassoa;* on the S., the Pyrenees cover much of its surface, presenting in many places sharp rocks, and on the mountain sides forests. The inhabitants, many of whom are shepherds, are brave and warlike, much attached to their ancient customs, and make cheese from ewes' milk, weaning the lambs early.

Pau (18,000) (*Gave*), is a fine old town with mineral waters. Here Henry IV. of France, and Bernadotte, King of Sweden, were born.

Bayonne (25,600) (*Adour*), is a strongly fortified town near the river's mouth, with an active trade. Here the bayonet was invented; hence its name. In 1814 Wellington here defeated the French, under Soult. Orthez (*Gave*), is an industrious town. Eaux-Chaudes has mineral waters. Biarritz is a bathing-place, amid beautiful scenery.

74. Ariege is covered in the S. by peaks of the Pyrenees, which exhibit many natural curiosities.

Foix (4,000) (*Ariege*), stands on a rock, in a very picturesque locality. St. Girons (4,000) has trade with Spain, and some foundries.

75. Pyrenees (Orientales) is, for the most part, mountainous. Olives and vineyards abound.

Perpignan (23,000) (*Tet*), has trade in wine. It is a strong fortress, and has good public buildings.

76. Vaucluse was formed from the small state of Avignon (which, until 1790, belonged to the popes) and the principality of Orange. In the E., the branches of the Alps penetrate, but the rest of the country is low and fertile.

Avignon (38,000) (*Rhone*), through which the railway from Lyons to Marseilles passes, is a fine old city—the residence of the popes from 1305 to 1376. It has large barracks, a cathedral, and a theatre, with handsome walks and gardens. It is the centre of the madder trade, and does business in wines and perfumes.

Orange (11,000) (near the *Rhone*), the cap. of the ancient principality of same name, has Roman remains. It formerly belonged to the Princess of "Orange." Cavaillon is noted for its excellent melons. Vaucluse stands in a valley, and has prolific springs and fine fountains.

77. Rhone (Bouches-du) contains some of the spurs of the Alps in the N. and E., and has several lakes and lagoons on the coast. A canal connects the *Rhone* with the *Durance;* rich plantations of olives abound; and numbers of superior horses and cattle are reared.

Marseilles (312,000) ranks as the first port of France. It is a very ancient town, with some public buildings, good spacious docks, and extensive fortifications. The first Chamber of Commerce was established here. Its trade in wines, fruits, etc., has extended very much since Algeria became a French possession in 1830.

Aix (28,000) was the ancient cap. of Provence; has mineral waters and much esteemed olive oil. Arles (26,000) (*Rhone*), is an old, irregularly-built town, with Roman remains, and Tarascon (10,000) (*Rhone*), has some trade and manufactures.

78. Alpes (Basses) is mountainous on the E., with rich pastures on the west.

Digne (5,000) is a small town near the centre, with trade in corn and hemp.

79. Var, on the extreme S.E., is very much covered by the Alpine spurs, except near the sea, where olive and

orange groves, vineyards, and mulberry trees are numerous. Two groups of isles are near the coast.

Toulon (80,000) (*Mediterranean*), ranks first of the four great naval arsenals, has a spacious roadstead, and trade in wine, fruit, and olive oil, with manufactures of canvas, cordage, etc. It was entered by an English force in 1793, and was soon after besieged and taken by Napoleon I., whose genius was here first displayed.

Draguignan (11,000) has trade in olive oil.

80. Alpes (Maritimes) contains part of the territory ceded by Italy in 1859, lies on the Mediterranean, and extends to the river *Roya*, the Italian boundary line. It is a beautiful country, with an excellent climate.

Nice (48,000) (*sea coast*), has long been noted for the mildness of its climate. It is much engaged in the manufacture of silk, olive oil, and perfumery, and is still an attractive winter residence. It is a free port. On an average, four or five thousand English reside here permanently.

Mentone (6,000) (*sea coast*) has recently become a very favourite resort of invalids, and has sucessfully rivalled Nice. It is the chief town of the principality of *Monaco*, which was independent until a few years ago, when it was annexed by Napoleon III. Grasse (12,000) has also trade in oils, perfumes, and fruits. Cannes (5,000) (*sea coast*), has a nice climate; here Napoleon landed on his escape from Elba, 1814; here Lord Brougham long resided, and here M. Thiers was born. Antibes, with some antiquities, has trade in salt and fruit.

81. Savoy, much between the Alps and Isere, is covered with mountains. It contains most delightful scenery. In the N.W. is the *Lake Bourget*, 10 miles long and 3 broad. On the S.E. is Mont Cenis, and on the northern border the Little St. Bernard.

Chambery (13,000) in the W., lies in a nice valley, has trade in silk gauze, and is on the Mont Cenis Railway. St. Jean de Maurienne is a small town in the mountains.

82. Savoy (Haute) lies S. of Lake Geneva, and contains *Mont Blanc*, the highest European peak.

Chamouni (3,000), is a large village, from which travellers set out to make the ascent of Mont Blanc. It is chiefly inhabited by guides, and stands 3,000 feet above sea level. Bonneville is on the lake.

83. Moselle has almost all been ceded to Germany.

Briey is a small town, surrounded by beautiful gardens.

84. **Meuse** has some extensive forests, good pastures, with productive iron mines.

Bar-le-duc (13,000) (*Ornain*), has trade in wines, cotton, and paper. Verdun (12,000) (*Meuse*), has a large distillery. It is a strong fortress. Here the Emperor Charlemagne made the treaty dividing the empire among his three sons, A.D. 843. Longwy is a strong fortress near the Belgian frontier.

85. **Meurthe** has also been partly ceded to Germany.

Nancy (48,000) (*Meurthe*), is a well built city, 220 *m.* E. from Paris, with cloth, embroidery, and leather trade. It has exquisite public buildings, and is an important trade mart.

Toul (8,000) (*Moselle*), was taken by the Germans in the late war. Luneville (13,500) (*Meurthe*), has glove making. Here a treaty was made between Austria and France, 1801, which took away the independence of Venice, and gave France the Rhine.

86. **Vosges**, separated from Alsace by the chain of mountains of the same name, has important agricultural and commercial industry.

Epinal (11,000) (*Moselle*), a neat town, is surrounded by pretty high hills. It has trade in paper, vellum, etc. Neufchateau (3,000) has extensive ironmongery trade. Near is the village Domremy, the birthplace of *Joan of Arc.*

87. **Corsica*** is generally mountainous; the principal range running north and south. The rivers are short ungovernable torrents, rushing with impetuosity to the sea. The chief are Tavignano, Golo Gravone, and Tolavo. On these mountains a kind of wild sheep are found, called *moufflon.* The coast on the W. is high, and much indented, while on the E. it is tame. The climate is very temperate; wheat, maize, barley, wine, sugar, indigo, and tobacco are, together with oranges and other fruits, the chief productions of the island.

Ajaccio (2,000) was the birthplace of Napoleon I., in 1769. It is on the W. coast, and has trade in wine, oil, and coral. Bastia, N.E.,

* It was conquered by the Genoese, 1481, who held it until 1755, when it became independent. It has belonged to France since 1768.

(6,000) is an active port. Calvi, on the N.W., is a small port, at an attack on which Nelson lost his eye, 1797. Corte (5,000), in the interior, was the former capital. Bonifacio has good coral fisheries.

Mountains.—France, generally speaking, is not a mountainous country. Besides the border ranges of the *Alps* and *Pyrenees*, the *Cevennes* and the mountains of *Auvergne* are distinguished. To these must be added the Corsican chain. A railway over, and now a tunnel through, *Mont Cenis* leads into Italy. The *Jura* range lies on the Swiss frontier. The *Pyrenees*, already described (p. 61), have *Mont Perdu* (10,994 feet) their highest French peak. The *Cevennes* generally run in a rugged range N. and S., dividing the basin of the Loire from that of the Rhone, and rising in *Mont Mezen* to 5,794 feet. The mountains of *Auvergne* run to the N.W., and in a divergent course separate the basins of the Loire and Garonne, and present in *Puy-de-Sancy* (6,171 feet), the highest peak in the interior of France. Many branches of these run in various directions, the most important being called *Dômes*, of which Puy-du-Dôme is 4,806 feet in height. *Mont Blanc* is in Savoy; Mount *Rotondo* in Corsica.

Plains.—In the N.E. a plain may be traced from the borders of Belgium, embracing in its continuation the lower portions of the rivers Seine, Loire, and Garonne, to the Spanish frontier. The province of Burgundy is also level, or slightly undulating, along the course of the Saone.

Minerals.—In minerals France ranks high. There are three *schools of mines*—at *Paris*, founded in 1783, *St. Etienne*, founded in 1816, and at *Alais*, founded in 1845—which supply mining engineers for the country.

Iron is abundant, but rather far from the coal. St. Etienne is one of its chief centres. Coal is found in five fields:—1. in the N., near the Scheldt; 2. in the centre, between the Loire and the Saone; 3. between the Loire and the Rhone; 4. in the valley of the Cher; 5. in the S., in the valleys of the Aveyron and the Gard. Lead and Silver are found in Finisterre, Isère, Puy-de-Dôme, and Lozère. Manganese and Arsenic are less widely diffused. Bitumen and Asphalte are also found. Slate is found near Cherbourg; and excellent building stone near Caen.

Forests are still very extensive and very carefully looked after; indeed one seventh of the surface consists of plantations. On the mountain sides are chestnut and beech,

with the oak and cork tree in the Pyrenees. Timber, and turf in the marshy lands, constitute the principal articles of fuel. The *Landes* have been planted with pine trees.

Canals.—Since the introduction of railways canals have become of very little importance. The Canal du Midi unites the Garonne and the Mediterranean. The Canal du Centre unites the Rhone and Loire. A third canal runs from the Rhone to the Rhine, and a fourth from the Rhone to the Seine; a fifth runs from Brest to Nantes.

Rivers.—France has four great rivers:—The *Seine*, *Loire*, *Garonne*, and *Rhone*. The drainage of the country may be considered under four slopes:—The Mediterranean, Bay of Biscay, the English Channel, and the North Sea.

The Rhone has been already described at page 65. The Var formed, until 1859, the boundary between France and Italy. The Adour in the S.W., descends from the Pyrenees in a rapid stream, and enters the bay of Biscay, below Bayonne. The *Gave* on the left, and the *Medouse* on the right, are its chief tributaries. The Garonne has been described. The Charente, with good navigation, rises in the hills of Limousin; it passes in a very circuitous course, Angoulême, Cognac, and Rochefort, entering the sea opposite the isle of Oleron, after a course of 130 *m*. The Loire has been described, p. 66. One of its tributaries, the Lot, has a course of 250 miles. Many smaller rivers, such as the Vilaine and Orne, are found in the N.W. The Seine has been described. The Marne joins the Seine near Paris, after a course of 200 *m*. The Aube, Yonne, Eure, Oise, and Aisne also flow into the Seine. The Somme flows past Amiens and Abbeville, and reaches the English channel, after a course of 125 *m*. The Escaut, Scheldt, and Meuse flow through Belgium to the North Sea. The Moselle rises in Alsace, and, receiving the German Saar and the French Meurthe, enters the Rhine at Coblentz. About 100 *m*. of this river are in France.

Lakes are very few. *Grand Lieu*, near the mouth of the Loire; *Bourget*, and *Annecy* in E. France.

Mineral Spings.—No country in the world has so many mineral springs. Some state that there are even 4,000. The best known are those at *Pau* and *Vichy*.

Coast Line.—The coast line exterds over 1,450 *m*. On the N.E. is *C. Grisnez*; further W. the large bays of the Somme and Seine; further W. Cotentin peninsula, then the

bay of St. Malo, called also gulf of Bretagne. The island of *Ushant* lies off the coast of Brittany, with a population of 2,500. In the harbour of Brest 500 vessels could safely anchor. *Belle Isle*, in the bay of Biscay, with rocky cliffs but a fertile interior, was taken by a British force in 1761, and held till 1763. Its population is about 10,000. *Noirmoutiers*, a little S. of the mouth of the Loire, is rich and fertile, with salt marshes, and about 8,000 inhabitants. *Dieu*, *Ré*, and *Oleron* are the largest islands near this coast. *Ré* is a good fishing station, and produces much wine. From the mouth of the Loire to that of the Garonne, the surface is flat; the remaining coast of the bay of Biscay to the Spanish frontier is very tame. The coast of the Mediterranean is formed of two curves. Here are the *Lerins*, two isles well fortified, and *Hyères*, with Hyères (9,000) as capital, which is an active little port, 11 *m.* from Toulon.

Bay of Biscay is at all times a restless sea, but on a wind rising it becomes turbulent and dangerous to navigators.

Manufactures.—The general character of French manufactures is, that they are both for luxury and use, exhibiting great variety, combined with delicate manipulation and exquisite taste. The French people are among the most industrious, thrifty, and saving in the world. Wealth is widely distributed, and economy is universally practised. The system of peasant proprietors has led to upwards of 7,000,000 of people owning either land or house property.

Linen has its chief seats at Lille, Rouen, and St. Quentin (table linens). **Cotton** is manufactured at Rouen. **Woollens** are made in many places—Amiens, etc. **Silk** is raised in many of the S.E. departments, and manufactured at Lyons and many of the neighbouring towns. Indeed the quantity produced in the country is quite insufficient, and raw silk is imported from Italy, Turkey, and other places. The **Lace** of Valenciennes, the **Porcelain** of Sèvres, the **Jewellery** of Paris, the **Gloves** of Grenoble, are all of unrivalled excellence. **Surgical, Astronomical, and Mathematical Instruments** are extensively made at Paris.

Agriculture has greatly improved of late. (1) In the *North*, the climate much resembles that of the south of England, and flax, potatoes, and grain are largely raised, as well as beet-root for the sugar manufacture. (2) In the *Centre*, where the sky is less

cloudy, the vine, so carefully tended by the people, becomes an important production. The chief seats of the champagne wine are Rheims and Chalons; of Burgundy wine, Autun and Dijon; of claret, the district inland from Bordeaux; and of brandy, Cognac. (3) In the South the olive and fig flourish in a delightfully clear atmosphere, where maize also is produced. It may be observed that the climate on the E. is warmer in summer than on the W. For the vine is only found on the W. as far N. as the mouth of the Loire, while on the E. it almost reaches the 50th parallel. While maize on the W. is only found at the mouth of the Garonne, on the E. it reaches almost as far N. as Strasbourg.

Commerce.—The commerce of France is very extensive, and ranks next to that of England and the United States. The shipments of wines, brandies, articles of taste and luxury, of eggs and fruits, silks and velvets, constitute an extensive and progressive industry. She imports raw silk, tea, coffee, spices, wool, hardware, timber, coal, etc.

Education.—France stands pre-eminent in establishments for instruction in the fine arts, chemistry, surgery, music, astronomy, etc. Great efforts have been made lately to extend education in the common schools. The "illiterary," *i.e.*, those who have to mark the marriage registry, ranges from 60 per cent. in Corsica to 70 per cent. in Vendée; from 3 per cent. to 9 per cent. in Seine, and is only 4 per cent. in Lorraine.

Animals.—In addition to the ordinary tame animals, wolves are numerous in the mountain districts; bears, though decreasing in number, are still met with in the highest mountains. The chamois or wild goat, the ermine, and marmot, are found in the Alps and Pyrenees. In the woods the wild boar, roebuck, fox, squirrel, and marten are numerous.

Colonies.—In *Africa* the French possessions consist of Algeria, Senegal and its dependencies, the isles of *Bourbon* and *St. Marie* in the Indian ocean, *Mayotte* with its dependencies, portions of the island of Madagascar, and stations on the coast of Guinea: total area, 95,000 square miles, and population, 500,000. In *America* are *Martinique* and *Guadaloupe* in the W. Indies, French *Guiana*, the fishing stations *St. Pierre* and *Maquelon* on the coast of Newfoundland; total area, 80,000 square miles; population, 300,000. In *Asia* are *Pondicherry*, *Mahé*, etc.: area, 10,800 square miles; population, 2¼ millions. In the Pacific the *Marquesas*, *Tahiti*, and *New Caledonia*; area, 9,560 square miles; population, about 84,000.

SPAIN.

Spain occupies five-sixths of "The Peninsula," and has a surface traversed by mountain ranges running for the most part parallel to each other, with a plateau in the centre. The Atlantic seaboard, including that of the bay of Biscay, is about 600 miles, while that of the Mediterranean is 712 miles in length.

It lies between the parallels of 36° and 43° 45′ N. latitude, and 3° 20′ East and 9° 20′ W. longitude. Its greatest length is 560 miles, and its average breadth 380 miles. Spain is bounded on the N. by the Pyrenees and the bay of Biscay; on the W. by the Atlantic and Portugal; on the E. by the Mediterranean; and on the S. by this sea and Atlantic. It was formerly divided into 14 districts, but since 1833 the division has been into 48 provinces.

Dictricts.	Sq. miles.	Population.	Capitals.
1 Galicia . .	11,335	1,880,552	Santiago on the Sar.
2 Asturias .	4,086	571,335	Oviedo on the Gijon.
3 Basque Provinces	2,778	459,000	Bilbao on the Nervion.
4 Old Castile .	25,565	1,691,297	Burgos on the Arlanzon.
5 Aragon . .	17,726	921,305	Saragossa on the Ebro.
6 Navarre .	4,450	300,000	Pampeluna.
7 Catalonia .	12,480	1,731,798	Barcelona on the Mediterranean.
8 Valencia .	8,883	1,342,515	Valencia on the Guadalaviar.
9 Murcia . .	10,440	621,728	Murcia on the Segura.
10 Andalusia .	33,637	3,146,515	Seville on the Guadalquiver.
11 Estramadura	16,688	715,899	Badajos on the Guadiana.
12 New Castile .	27,882	1,493,234	Madrid on the Manzanares.
13 Leon . .	15,294	878,437	Leon.
14 Islands . .	4,981	535,068	Palma, and Santa Cruz.

[*Get the capitals, their position, and the names of the provinces from the above Table.*]

1. **Galicia** contains the most northern point of Spain, Cape Ortegal, as well as the most western, Cape Finisterre.

The surface is mountainous, and has the most irregular and indented coast line in "The Peninsula." Wine, fruits, wheat, maize, timber, and flax, are the chief productions, and linen the chief manufacture. The river *Minho* separates this province from Portugal. It is divided into the modern provinces, *Corunna, Lugo, Orense, and Pontevedra*—all inhabited by a robust and athletic race.

Santiago (30,000), the largest town, is so named from St. James the Elder, the patron saint of Spain, who was, it is said, buried in its cathedral. It has a university. The chief trade is in onions.

Corunna (20,000) is strongly fortified, and stands on a bay of the same name. It has a very extensive cigar manufactory, and active trade. Here Sir John Moore fell, fighting against the French, 1809. The Spanish Armada sailed from this port, 1588. Ferrol (16,000), on the N. shore of the same bay, is one of the three Spanish naval arsenals. Vigo (8,000), towards the south, has a spacious and well-sheltered harbour town: much injured by Drake, 1589. It was attacked, and several galleons sunk in the harbour by Admiral Rooke, 1702. Pontevedra is surrounded with fruit trees and orchards.

2. Asturias is a long narrow province lying along the bay of Biscay, with a mountain range for its southern boundary, some of the peaks of which rise to 10,000 or 11,000 feet, and exceed the limit of the snow line. From this range the surface has a gradual slope towards the sea. The country is rich in copper, iron, zinc, marble, jet, coal, and peat, and its mountains are covered with forests. Several fertile valleys are found which afford good pasturage. Cider is the common beverage. *Oviedo* is the corresponding modern province.

Oviedo (10,000) stands nine miles from the coast, and was, when the Moors flourished in Spain, the residence of the Christian kings. It has a cathedral and a university. Gijon (7,000), on the coast, is its port.

3. The Basque Provinces are situated further E., a portion of Old Castile coming in between them and Asturias. A small rugged triangular-shaped district, separated from France by the river Bidassoa, it is the seat of the Basque population, an athletic race, who speak a language different from Spanish. The mineral wealth is very

important; and flour is largely exported. The district corresponds to the modern provinces of *Bilbao, St. Sebastian,* and *Vittoria,* all much injured by insurrectionary movements.

Bilbao (20,000), the capital, is a commodious port; the chief plac for exporting Spanish wool to England.

St. Sebastian(12,000) is a fortified seaport, which was stormed and taken by Wellington, from the French, in 1813. **Vittoria** (11,000), an inland town, was the scene of Wellington's victory over the French, 1813. The engagement raged fiercely for six hours, and after it Wellington crossed over into France, near **Irun**, the Bidassoa being fordable here at low water. **Fontarabia** is a frontier fortress on the borders of France.

4. **Old Castile** (now *Santander*) runs inland from the the bay of Biscay to the centre of the kingdom, and is crossed by two mountain chains. The inhabitants are as indolent as they are supercilious, and look with contempt on those who follow ordinary industry.

Burgos (13,000), with some shady walks and pleasant gardens in its outlets, is an old and decayed city, with one of the most richly decorated cathedrals in the world. Its archbishop was murdered a few years ago in a tumult. It has manufactures of fine cloth.

Santander (20,000) is a flourishing seat of Spanish commerce, having active trade with the West Indies and other places. It has a good harbour and some tobacco factories, with iron mines in the neighbourhood. A railway connects it with Madrid. It exports wool and grain. **Valladolid** (40,000), though once the capital of the country, is now a city of little importance. It has a university. Here Columbus died in poverty, 1506, under the neglect of an ungrateful country. **Palencia** (10,000) is another old town on the railway just mentioned. **Segovia** (12,000), in the midst of good sheep pastures, has some cloth-making. **La Granja**, on the mountains, is near the summer palace of the Spanish monarchs, about 4,000 feet above sea-level upon the grounds of which the wild boar often intrudes even at the present time.

5. **Aragon** extends from the crest of the Pyrenees S. beyond the Ebro. On the sides of the hills are forests of oak, beech, and pine. Copper, lead, iron, salt, and alum are found; and crops of wheat, rye, maize, and barley, with a little rice along the banks of the Ebro, are raised. *Saragossa, Huesca, Teruel,* are its divisions.

Saragossa (80,000), the capital, is an old town, with a cathedral, a university, and silk and cloth factories. It is memorable for a siege by the French in 1808-9, when the women fought on the walls like heroic men. Tarazona and Huesca are small places.

6. Navarre was formerly a distinct kingdom, extending on both sides of the Pyrenees. Three-fourths of the surface are mountainous, the remainder containing valleys and plains. The *Ebro* is the chief river. Forests cover most of the hill sides, and the country is well stocked with fish and game. Sheep-farming is extensive.

Pampeluna (14,000), the capital of Navarre, is an important fortress at the foot of the mountains, with a bull-ring which can contain 10,000 spectators. It was taken by the British in 1813 from the French, who had held it from 1808.

Tudela (9,000), on the Ebro, has a cathedral, and some manufactures of woollens and earthenware.

7. Catalonia, in the N.E. extends from the Pyrenees to a point S. of the mouth of the Ebro. Cork and pine trees are abundant S. of the Pyrenees. The inhabitants are energetic and intelligent, and agriculture is more advanced than in the other districts. It contains four modern provinces—*Barcelona*, *Girona*, *Lerida*, and *Tarragona*.

Barcelona* (260,000) the second city of Spain, stands on the Mediterranean, and has been for ages a place of importance. It has at present steam communication with almost all the ports on the Mediterranean. Many good shops, hotels, and public buildings adorn the principal streets. Beautiful lace is made in the outlets, from which several narrow streets radiate towards the centre of the town. It has a university, eight colleges, many scientific institutions and libraries. It was taken by the Earl of Peterborough, 1705.

Mataro (13,000) is a seaport further N.; Tarragona (13,000) and Tortosa (18,000) are ports further S. Among the inland towns may be named Gerona (8,000), strongly fortified, resisted the French very bravely, 1809; Manresa (13,000), a manufacturing town on the railway from Barcelona to Saragossa. Reuss (25,000) stands a little

* Said to have been founded by Hamilcar Barca; hence its name.

inland and has active trade in silk and cotton. Vich (14,000) (*Ter*), has some beautiful specimens of architecture of the middle ages. Lerida (13,000) (*Segre*), is a busy place, the see of a bishop; and Olot (13,000), has trade with France.

8. **Valencia** extends along the coast to a little S. of the mouth of the Segura. Its inhabitants are quick, gay, and fond of pleasure. The air is pure.

Valencia (90,000) (*Guadalaviar*), is a very busy city, being the centre of the Spanish silk and cloth manufactures. The old Moorish walls remain, and the town is entered by eight gates. It is called "Valencia the Beautiful," and has a flourishing university. It was taken by the French, 1812.

Alicante (22,000) (*Mediterranean*), stands at the base of a high rock, 280 miles by rail from Madrid, of which it is the port; exports raisins. Elche (18,000), has great industry in the cultivation of date palm. Alcoy (25,000), is well known on account of its paper cigars and sugar plums. Orihuela (18,000) (*Segura*), stands in a beautiful district called "The Garden of Spain," and was in the hands of the Moors 550 years. It has a university. Murviedro (6,000), (*Palancia*), is famous for its Roman antiquities and raisins. Castellon (17,000) (*Med.*), has active trade; also manufacture of brandy.

9. **Murcia**, lying S.W. of Valencia, enjoys a delightful climate, only faulty from its dryness. But little advance has been made in industrial pursuits by its indolent inhabitants.

Murcia (25,000) (*Segura*), a cathedral city, has manufactures of nitre and gunpowder. It was taken and sacked by the French in 1810.

Carthagena or Cartagena (35,000) (*Mediterranean*), the chief of the three Spanish naval arsenals, has one of the best harbours on the coast. It has glass and smelting works. Lorca (40,000) (*Sangonera*), has linen and saltpetre factories. Albacete (12,000), girt round by rich plains, has trade in saffron, exported to England and France for dyeing, and used at home to give flavour and colour to soups, rice, etc.: it also has trade in cattle and grain. Its annual fair lasts 8 days. Almanza (8,000), was the scene of the defeat of Lord Galway by the Duke of Berwick, 1707.

10. **Andalusia** is remarkable for the diversity and variableness of its romantic scenery. The snowy *Sierras* glitter in the burning sky, their sides dark with pine and ilex. The people preserve much of the Arabic character.

and the Guadalquiver is spanned by bridges of Roman masonry. Some of the valleys are so delightful that the sugar-cane and cotton plant flourish in the open air. Corn, fruit, wine, and oil are the principal productions.

Seville (150,000) (*Guadalquiver*), a splendid Spanish city, stands in a plain in the midst of olive and orange groves, about 50 miles from the river's mouth. An old wall surrounds the city, which still contains a Moorish palace, a Gothic cathedral, and many good public buildings, with Roman and Moorish remains. It has immense trade in oranges and tobacco, and contains a government cannon foundry.

Granada (65,000) (*Genil*), is situated on a plain renowned for its beauty and fertility, and is said to contain some of the finest specimens of Moorish architecture. It has a university, numerous churches, hospitals, etc. Malaga* (110,000) is an active commercial port, with trade in wine and dried fruits. It was held by the Moors from 714 to 1487, and was taken by the French, 1810. Cordova (36,000) (*Guadalquiver*), with narrow winding streets, was once the capital of the Moors. It was long noted for the manufacture of a kind of leather called Cordovan. Cadiz (61,000) (*Isle of Leon*), is a Spanish naval station and free port, with active trade and skilful mariners. It has productive salt pits. This town was taken by the English, 1596; but in 1702 it was unsuccessfully attacked by the Duke of Ormond and Sir G. Rooke. Tarifa (9,000) (*Strait*), is a good fishing town, and exports excellent oranges. Algesiras (10,000) has linen and cotton factories, and overlooks the bay of Gibraltar. Xerez (30,000) is much engaged in wine-making, and gave its name to Sherry. Palos (*Tinto*), now insignificant, was the port whence Columbus set sail, 1492, to discover America; and San Lucar (16,000) is the place whence Magellan set sail. It has trade in wine and salt.

11. Estremadura, with a dry climate in the W. and one resembling Asia Minor in the E., is one of the poorest and least peopled provinces. It is crossed by three chains of mountains, with two valleys traversed by the Tagus and Guadiana. Its valleys are clad with rich pastures, and its hill-slopes with fine woods. On the hills in summer, and in the valleys in winter, sheep farming is extensively carried on, and wool constitutes a valuable export.

Badajos (22,000) (*Guadiana*), a strong fortress, stands in an extensive plain, near the Portuguese frontier. It has manufactures of soap and coarse woollens. In 1810 it was taken by the French after a

* From November to February the temperature is 10° higher than that of Nice.

siege of two months ; and having besieged it for three weeks in 1812 Wellington took it by storm, after a dreadful conflict with the French, in which he lost 5,000 men in killed and wounded.

Merida, higher up the river, though once large and populous, is now of little importance. Alcantara is a river port.

12. New Castile, embracing elevated plains, intersected by mountain chains, is an extensive district in the centre of the kingdom, on which immense flocks of sheep are fed. Wheat is largely raised. Here, as well as in many other parts of Spain, mules are used as beasts of burden. The inhabitants are exceedingly haughty, use a language of great pomposity, and are too proud for ordinary industrial pursuits. It includes the new provinces—*Madrid*, *Toledo*, *Ciudad Real* or *La Mancha*, *Cuença*, and *Guadalaxara*.

Madrid (390,000) has an uninviting aspect. It is situated on an exposed plateau, 2,170 feet above sea level, being surrounded by a brick wall twenty-five feet high, and entered by fifteen gates. It contains many wide and well-paved streets, public walks, fountains, richly decorated churches, and many public squares and government buildings. It has a university of considerable reputation, an amphitheatre for bull-fights, four theatres, and three museums. Two factories, one of procelain, the other of tapestry, are carried on. It always enjoys a pure but keen air. In 1526 a treaty was made here between Charles V. and Francis I., by which the latter was liberated on paying a ransom. In 1808, it was entered by the French, who held it until 1813.

About 26 miles N.W. is the *Escurial*, a magnificent palace and monastery, erected by Philip II., in the form of a gridiron, and containing 48 wine cellars, 11,000 square windows, 1,860 rooms, and 14,000 doors. It was slightly injured by fire, 1872.

Alcala (4,000) was the birth-place of Cervantes. Toledo (18,000), a very old town, with a palace, a university, and a cathedral, was long famous for its sword blades. Talavera (6,000) was, in 1809, the scene of a victory of Wellington over the French, under Victor. Cuenca (8,000) has paper mills, and an establishment for washing wool. Ciudad-Real (10,000) is an old town, with trade in fruits and oil. Almaden (9,000) contains the richest quicksilver mine in Europe.

13. Leon, traversed from E. to W. by the Douro, extends from the Asturias mountains to the Sierra d'Estrella, con-

sisting, in many places, of a barren tract. A portion of the inhabitants differ from all other Spaniards, and are known as carriers throughout the country. They are called *Maragatos* or Moorish Goths, and still retain the habits of the Moors. It consists of *Leon*, *Zamora*, and *Salamanca*.

Leon (6,069) is a very old town, gloomy and dirty.

Salamanca (?,000), with a celebrated university and many fine old buildings, was the scene of a victory of Wellington over the French, 1812. It has the largest bull-ring in Spain. Astorga is the capital of the Maragatos. Zamora (12,000) stands on the Douro.

14. **Islands.**—The *Balearic Islands* (anciently noted for their slingers) constitute a modern province, and the *Canary Islands* another.

Islands.	Area sq. mls.	Population.	Capital.
Balearic.			
Majorca,	1,360	250,000	Palma (40,000).
Minorca,		45,000	Port Mahon (17,000).
Iviga,		20,000	
Formentera,		2,000	
Cabrera,	Used as a place of exile by Spain.		

Majorca, the largest, has an uneven surface, nicely varied, a mild and healthy climate, a fertile soil, with rich pastures, with abundance of fruits and some wine.

Minorca, with similar productions, is not so hilly in surface. It was held by the British from 1708 to 1758, when it was retaken by the French. It remained under Britain from the peace of 1763 till 1782, when it was taken by the Spaniards; again taken by Britain in 1798; restored 1802.

Palma is the capital of the whole group.

Port Mahon, exports wine and fruit. England held it 80 years.

Soller (10,000), in Majorca, exports oranges very extensively.

The **Canary Islands** are seven in number—Teneriffe, Gran Canaria,* Fortaventura, Gomera, Lauzarote, Palma, and Ferro, together with many islets. The population is about 240,000.

*"So called on account of the great number of large dogs therein."—*Pliny.*

Palmas (10,000), on the island of Gran Canaria, is the commercial capital, and has a good harbour, and active trade in wine, dried fruits, and other productions of the island.

Teneriffe, the largest island, contains the capital of the group, Santa Cruz, (9,000), an active little town, at an attack on which Nelson lost his arm. Many vessels call here for supplies.

On Teneriffe stands the celebrated mountain of the same name, which exhibits on its sides every variety of vegetable production.

Railways connect the capital with Alicante and Santander, and Barcelona with Valencia, running along the coast. A railway runs through the valley of the Ebro, connecting Saragossa with Bilbao. From Cordova lines proceed to Malaga and Cadiz.

Mountains.—The general direction of the mountains of "The Peninsula" is from E. to W. Five extensive ranges are distinguished.

The Pyrenees, with their continuation, the Asturias mountains, run, with little interruption, from Cape Creuse to Cape Finisterre (an elevated bluff cliff), very abrupt towards the S., with rugged features. The second range slopes gradually towards the N., but is much more irregular in its course, commencing a little S. of the mouth of the Ebro, on the E., passing N. of Madrid, under the name of *Castilian* mountains, and further W., the *Sierra de Gredos*,* the *Sierra de Gata*, and, in Portugal, the *Sierra d'Estrella*, terminating in the Rock of Lisbon. The third range neither rises so high nor extends so long as the preceding. It lies S. of the Tagus, separating the basin of that river from that of the Douro, and is called the mountains of *Toledo*. The fourth lies S. of the Guadiana, and is called the *Sierra Morena*, which is crossed by several streams which flow to the Guadalquiver. The fifth range, which has the highest peaks in the Peninsula, may be traced from the vicinity of Gibraltar to the vicinity of Cape Palos, under the name of *Sierra Nevada*. The snow-line on this mountain is about 9,509 feet high; and the range descends in terraces almost to the sea shore.

Table-land.—The plateau in the interior has, in Castile, a mean elevation of 2,500 feet, is skirted by the Asturias mountains on the north, while on the west it proceeds to the frontiers of Portugal.

Minerals.—Spain is very rich in minerals. *Silver* is found in Granada and Murcia; *copper* and *manganese* in the same districts; *iron* is found all over the country; *coal* in many places; the richest

* *Sierra* means saw-like, *pic*=a pointed height; *cerro*=hog-backed; and *aiguille*=a needle; *Nevadas*=snow mountains, *rio*=river, *negro*=black, *morena*=dark.

quicksilver mines in Europe are at Almaden; *tin* in Galicia; and *marble* and *salt* in Catalonia. The mineral wealth, for want of good roads, and lack of local enterprise, is very little developed.

Forests of cork trees, plantations of olives, and groves of oranges, are found in some districts; but in general the aspect of the country is dreary. Most of the Spaniards dislike trees; and the valuable forests are gradually disappearing.

Rivers.—The Iberian peninsula slopes, for the most part, towards the Atlantic. The rivers flowing into the Mediterranean are—

The **Lobregat**, which rises in the Pyrenees and flows into the sea a few miles S. of Barcelona; the **Ebro**, already described; the **Guadalaviar**, which rises in Aragon, and flows into the sea at Valencia, after a course of 150 miles. The **Jucar** rises in the E. of the table-land, and flows nearly S. for about 100 miles, and enters the sea after a course of 200 miles. The **Segura** is further S., runs through a fertile plain, and passes Murcia on its way to the Mediterranean.

The rivers between Cape Palos and Gibraltar on the S. and into the bay of Biscay on the N., are unimportant: the following rivers flow into the Atlantic:—

The **Minho**, which rises in the mountains of Galicia, flows S. to the town of Orense, turns S.W., and after forming the boundary, for some distance, between Spain and Portugal, enters the sea, after a course of 160 miles. The **Douro** rises in the plateau of Soria, about 3° E. longitude. It is formed of an immense number of streams from the mountains on either side. Its course is westerly; but on the frontiers of Portugal it runs S., forming the boundary for 60 miles: again turning W., it enters the sea near Oporto, after a course of 500 miles. It is subject to violent floods. The **Tagus** has been described at p. 66. The **Guadiana** descends from the central plateau; after flowing about 120 miles through the plains, deflects S. and forms the Portuguese boundary, for about 30 miles. It now enters Portugal, but near its mouth again flows on the borders. It is about 450 miles long, and flows underground for 15 *m.* of its course. **Guadalquiver**, which is about 300 miles long, waters some of the fertile plains of Andalusia, passing Cordova and Seville, after which it makes many meanderings, and enters the sea, two swampy islands being formed at its mouth.

Climate, &c.—The climate varies greatly. In winter the cold is very severe, and rain and snow are frequent. The average rain-fall in the S. and on the W. coast is from 25 to 35 inches; but in the

centre of the country only 10 inches. In Andalusia, a pestilential wind called *solano*—the sirocco of Italy—withers vegetation. The *Gallego*, a N.W. wind from Galicia, is still more destructive, bringing disease to the eyes and cutting down olive and vine.

Lakes.—There are no large lakes found in Spain, notwithstanding its mountainous surface.

Coast Line.—On the shore of the bay of Biscay the coast is straight and unbroken, with only a few little inlets called *rias* at the mouths of small rivers. On the W. the coast is rocky, with many fine bays and some small rocky islands. On the S.W. the Atlantic coast is low and sandy, and in some places even swampy. Trafalgar is a prominent cape in Andalusia, off which Nelson defeated the combined fleets of France and Spain and fell in the moment of victory, 1805. From Gibraltar to Cape Palos the coast is rocky, with few inlets; but from this point near to Alicante a low coast is again seen, and thence to the mouth of the Ebro it varies much; towards the coast of France it also varies considerably, with two good bays, Barcelona and Rosas.

Manufactures.—The manufactures of Spain are unimportant. Silk is made at Valencia; linen in the N.W.; and wines in many places.

Agriculture is in a very backward state, the most primitive methods of tillage being still in general use. The inhabitants, like those of most warm countries, are endowed with very little energy, though naturally skilful and ingenious as artizans. In poor districts they eat potatoes fried in oil; but the peasant generally uses bread, fruits and stews. On the whole the Spaniards are polite. The chief crops are wheat, barley, rice, and maize.

Commerce.—The commerce of Spain is only in its infancy. Wines, fruit, corkwood, onions, Marino wool, and cattle, are largely exported; minerals, to a limited extent; horses and mules, formerly introduced by the Arabs, are remarkable for symmetry and beauty.

Education.—A regular system of Elementary instruction has been lately adopted in the primary schools; but the unsettled state of the country has tended greatly to retard the progress of education.

Colonies.—Spain possesses the following colonial possessions:—The islands of Cuba and Porto Rico in the West Indies; the Philippine and Ladrone islands in Asia; Fernando Po, Tetuan, etc., in Africa.

Andorra.—This little republic is on the S. side of the Pyrenees adjoining Ariège, occupying a very picturesque district, about 37 *m.* long and 30 *m.* broad, containing much iron ore. It is ruled by two presidents, one appointed by France, the other by the Spanish bishop of Urgel, with a council of twenty-four members. The capital is *Andorra* (2,000); and the inhabitants are engaged in iron manufacture, with a little agriculture. Smuggling is much practised.

BRITISH POSSESSION.

Gibraltar is a projection from the Spanish mainland, going as far S., save five miles, as Tarifa point, the most southerly land of Europe. To the coast line of Andalusia, the "Rock" of Gibraltar (1,439 feet), which is about three miles in length, is attached by a low sandy isthmus. The town is built on the only landing place, on the W., where Gibraltar bay makes a circular sweep; and craggy rocks are on the other sides. On the inaccessible rocks the monkeys scamper about and afford amusement to the garrison—the only place in Europe where they are found wild. The fortifications are cut out of the solid rock, rendering it by far the strongest fortress in Europe. Convict labour is largely used on the works.

Gibraltar (25,000) consists of three streets running parallel to each other, the longest being about a mile in length. Every day may be seen in the town a mixture of the inhabitants of most European nations. There are no fresh water springs, and the only supply is the rainfall; hence, in the hot season, from July to November, epidemics have often preyed on the inhabitants. In 1462 it was taken from the Moors. In 1704 it was taken by Sir G. Rooke, and in 1779 it was gallantly defended, against a combined attack of France and Spain, by General Elliot, created Lord Heathfield. The blockade lasted until 1782. About 1,000 guns are now mounted on the fortifications, one of which is fired every evening, and the draw-bridge from the mainland drawn over. It is a free port.

PORTUGAL.

Portugal* partakes in its entirety of the physical features of Spain, already sufficiently given in detail. Though once important, and holding Brazil as a colony, it is now, perhaps, the least influential country in Europe.

* To the Portuguese is justly due the development of modern maritime discovery, commenced in the 14th century.

It is about 360 miles long, and 134 broad, and lies between the parallels of 36°50′ and 42° 15′ N. latitude; and between the meridians of 6° 15′ and 9° 30′ W.

The following are its divisions:—

Old Provinces.	New Provinces.	Capitals.
Algarve,	Faro,	Faro (9,000), on the Douro.
Alentejo,	Beja,	Beja (6,000)
	Evora,	*Evora* (15,000).
	Portalégre,	Portalégre (6,000).
Estremadura,	Lisbon,	*Lisbon* (300,000).
	Santarem,	Santarem (8,000), on the Tagus.
	Leiria,	Leiria, (3000), on the Liz.
Beira,	Castello-Branco	Castello-Branco (6,000).
	Guarda,	Guarda (3,000).
	Visen,	Visen (10.000).
	Coimbra,	*Coimbra* (18,000) on the Mondego
	Aveiro,	Aveiro (5,000).
Traz-os-Montes,	Villa Real	Villa Real (5,000).
	Braganza,	*Braganza* (5,000).
Entre-Douro-e-Minho,	Oporto,	*Oporto* (84,000), on the Douro.
	Braga,	Braga (17,000), on the Cavado.
	Viana,	Viana (8,000), on the Lima.

[The towns printed in italics are the capitals of the old provinces.]

Point out on the map the provinces and the position of their capitals.

TOWNS.—**Lisbon** is very nicely situated on the N. bank of the Tagus, in the midst of delightful scenery. The part of the town built since the great earthquake is well laid out; but in the older parts of the city narrow streets abound. Among the public buildings, the royal palaces and convents are the most striking. In 1755 a great earthquake destroyed most of the city, 60,000 inhabitants having perished. It has one of the best harbours in Europe.

Oporto stands on a hill about two miles from the mouth of the Douro. It consists of many broad streets with some narrow ones—11 public squares, a cathedral, theatre, mint, etc. Its immense wine-cellars are unequalled; wine being the chief export. About 30 English houses are in the city. It gave its name to Port. In 1832 it was considerably injured by the troops of Don Pedro. **Braga** is the

seat of the primate of Portugal, and has trade in hats, jewellery, and cutlery. Evora, a walled town, has manufactures of hardware and leather. Coimbra, picturesquely built on a hill, is the seat of the only university. It is an old town of some historical interest. Setubal (13,000), is a flourishing port. Elvas is noted for a cathedral, aqueduct, and plum market.

Surface.—Three chains of mountains enter from Spain—the *Sierra d'Estrella* (a lofty mountain range), rising about 7,000 feet above sea level and including the hills *Torres Vedras*, of historical celebrity as the centre of Wellington's lines, 1810. A second range runs S. of the Tagus, and terminates at Cape Espichel. The *Sierra Morena* of Spain terminates at *Cape St. Vincent*, off which the Spanish fleet was defeated by Sir J. Jervis, 1797.

Between these ranges extensive valleys lie, most of which are fertile; and along most of the rivers' banks the scenery is wild and picturesque. *Algarve* is, generally speaking, sandy. *Alentejo* is dull, with a varied surface, sparsely peopled. *Traz-os-Montes* is wild and picturesque. *Estremadura* is finely diversified. *Beira* is rather mountainous. *Entre-Douro-e-Minho* is the best tilled, most thickly inhabited, and most fertile of all the provinces.

Mountains and Rivers.—These have been already sufficiently referred to when treating of Spain. The only river which has its entire course in Portugal is the *Mondego*.

The **Productions** are similar to those of Spain. The *Minerals* include lead, copper, iron, tin, salt, coal, slate, and marble. *Agriculture* is very much neglected, but crops of maize, rice, barley, oats, and flax are raised. Cattle are numerous, and mules and donkeys are used as beasts of burden. The *Forests* of cork, oak, and pine are extensive. The *Manufactures* consist of wine, tobacco, cigars, and a little woollens and linens. Much fruit, onions, oil, and wine are exported. Almost all the trade of the country is with England.

Railways connect the capital with Oporto, Badajos, Beja, and Evora, and some excellent roads have recently been made.

Colonies.—Angola, Benguela, Mozambique Coast, Cape Verd Islands, St. Thomas, and Prince's Isles, in Africa. Goa, Damaun, Diu, and Macao, in Asia.

The *Azores* and *Madeira* Isles belong to Portugal.

THE KINGDOM OF ITALY.

Italy may be considered as divided into three distinct parts—the plain of Lombardy, the Italian peninsula, and the islands. The length from the Alps to Cape Spartivento is 750 miles; and the breadth varies from 330 miles at the north, to about 100 miles in the centre, and 15 miles at the Gulf of Squillace. Italy is the central projection of Southern Europe. It has been often styled "The Garden of Europe," from its delightful climate; and its shape closely resembles that of a high-heeled boot. It lies between the parallels of 37° 55′ and 47° N., and the meridians of 6° 45′ and 18° 30′ E

Italy has gradually grown out of the dukedom of Savoy, to which was added, in 1720, the island of Sardinia, with the title of kingdom. In 1815, the province of Genoa was added; and in 1859, the Austrian province of Lombardy was ceded to "Sardinia," which, in turn, gave up Savoy and Nice to France. In the following year, the duchies of Tuscany, Parma, and Modena, with the kingdom of the two Sicilies,* and the papal provinces of Romagna, Umbria, and the Marshes, were added, and the capital, which had hitherto been Turin, was transferred to Florence. In 1866, the province of Venetia was ceded by Austria; and in 1870, the Papal States were all annexed. Finally, in 1871, the king and parliament made Rome their residence.

The Plain of Lombardy, traversed by the Po for 250 miles, is extremely fertile, and thickly inhabited, well watered by this river and many streams which rush on either side from the Alps and Apennines. This district, which is subject to malaria, is known under three names —*Maremma* in the N., *Campagna di Roma* in the centre, and *Pontine Marshes* in the S. We may also distinguish three physical regions—the Northern Plain, the Eastern slope of the Apennines, and the Western slope of the same mountains.

* A name adopted in 1815, when Naples was incorporated with the island of Sicily, and up to 1860 included the south of Italy together with the island of Sicily.

The following is a popular division of Italy :—

Provinces.	Sq. miles.	Population.	Capital.
1 Piedmont* .	12,777	3,000,000	Turin on the Po.
2 Genoa .	1,588	700,000	Genoa on the G. of Genoa.
3 Lombardy .	8,644	2,998,181	Milan on the Olona.
4 Venetia .	9,995	2,603,099	Venice on the Adriatic.
5 Emilia .	3,600	2,146,567	Parma on the Parma.
6 The Marshes .	3,000	880,000	Ancona on the Adriatic.
7 Umbria .	3,600	513,019	Perugia on the Tiber.
8 Tuscany .	8,418	1,826,830	Florence on the Arno.
9 Naples .	33,607	6,787,289	Naples on the Naples Bay.
10 Papal Provs. .	4,555	723,161	Rome on the Tiber.
11 Sicily .	10,425	2,392,414	Palermo on Mediterranean.
12 Sardinia .	9,359	588,064	Cagliari on the G. Cagliari.

[*Point out on map the capitals of the provinces and their position.*]

The total number of divisions into which the above provinces are subdivided is 73—the names of these we thinkit unnecessary to give in such an elementary work.

1. **Piedmont** is traversed by many branches of the Alps, which, to a great extent, form a natural barrier between Italy, France, and Switzerland. It is traversed by the Po and many of its tributaries ; and produces maize, silk, wine, fruit, and olive oil. The railway enters from France through the Mount Cenis Tunnel, completed 1871.

Turin (22,000), with a flourishing university, has extensive silk and velvet manufactures. It has some good palaces, libraries, churches, theatres, together with an observatory, and a botanic garden. It has frequently been attacked by the French and Austrians in their rivalry for supremacy in Italy.

Casale (20,000) (*Po*), has some good public buildings. It is a strong fortress, with manufactures of silk twist. **Alessandria**, or Alexandria (24,000), is also very strongly built, and has extensive silk trade. **Asti** (31,000) (*Tanaro*), lies among picturesque hills.

* *Pied*, "foot;" *Mont*, "mountain."

Marengo, 2 miles distant, is the place where Napoleon I. defeated the Austrians, 1800. Novara (28,000), with a large grain and rice market, is the place where the Austrians defeated the Sardinians, 1849. Vercelli (22,000) and Coni (20,000) have good cathedrals. Mondovi (18,000), with silk and worsted factories, was the scene of a victory of Napoleon over the Sardinians, 1796. It was sacked by the French, 1799. Aosta, in an Alpine valley, is in the midst of pine forests, silver, copper, lead, and iron mines. Susa (4,000) has many old ruins, with iron and marble quarries in the vicinity.

2. Genoa lies S. of Piedmont and Parma, and along the gulf of the same name. The chain of the Apennines curves through it a few miles from the sea. The soil is not very fertile, unless near the shore of the gulf; but on the hill-slopes there are fine forests and good pastures. The chief productions are silk, wine, figs, oil, oranges, lemons, citrons, aloes, marble, and slate. The people are hardy and industrious.

Genoa (140,000), a free port, stands in the form of a small circle around the harbour, with the Apennines rising behind. The city is beautifully built, and contains fine palaces, gardens, churches, and convents, though many of the streets are narrow. It has a university and some good schools. There is considerable export of olive oil, silk, rice, etc. It was taken by the French in 1797, and given to Sardinia 1815. Columbus, the discoverer of America, was born in Genoa.

Chiavari (11,000) has manufactures of light willow chairs. Rapallo has lace and oil factories. Spezzia, an arsenal, on a fine bay, is the terminus of the cable over to Corsica. Novi (12,000), on the road from Genoa to Turin, is surrounded by mulberry trees. Here a sanguinary battle was fought, 1799, in which the French were defeated by the Austro-Russians. Savona (20,000) is an active port.

3. Lombardy stretches from Piedmont to Venetia, and from the Alps to the Po, and contains part of Lakes Como and Garda. Much dairy produce is raised (including the famed *Parmesan* cheese), and exuberant corn crops. About seventeen millions of mulberry trees are reared in this province for the silk-worm.

Milan (200,000) stands on a plain between the Adda and Ticino. It is equally remarkable for historical associations and architectural

beauty; its streets are wide, public buildings elegant, including a white marble cathedral, opera house, and a library. It is a great seat of the fine arts, and has many charitable institutions. The city has a lively and gay appearance. Its manufactures consist of silk, fire-arms, and hardware. In 1713, it was attached to Austria; but in 1859, the inhabitants drove the Austrians out of the town. **Pavia** (30,000) is a decayed city on the Ticino, with a university. Here, in 1525, Francis I. of France was defeated by Charles V., and made prisoner. **Lodi** (18,000), the seat of much trade in cheese, was the scene of a victory of Napoleon I. over the Austrians in 1796. **Bergamo** (40,000) has silk trade, and a large annual fair. It gave its name to a perfume called *Bergamot*. **Brescia** (40,000), with a cathedral, has many Roman antiquities. **Como** (28,000), on the lake, has silk and cloth trade. It is the birth-place of the younger Pliny. **Solferino** was the scene of a victory of the French and Sardinians over the Austrians, in 1859. **Cremona** (30,000), on the Po, has long been famous for its violins. **Monza** (16,000) has a palace, cathedral, and many public buildings. In one of its churches is deposited the iron crown of Lombardy. **Varnese** (13,000) stands at the foot of the Alps.

4. Venetia lies beyond the Mincio and the lower course of the Po, embracing some of the Alpine highlands, and bordering upon the Tyrol. Along the Adriatic, and for a considerable distance inland, the country is level, and much traversed by canals and rivers, which bring down great quantities of sediment. This district is very fertile, well-cultivated, and exceedingly productive.

Venetia, once a famous republic, extended some distance inland; but not so far as the modern province. This republic consisted at first of Italian refugees, who in the fifth century fled from the scourges of Attila. In the middle ages it had become one of the first maritime and commercial powers, with extensive foreign possessions, including, at one period, the Morea, Ionian Islands, and Dalmatia. It was governed by a chief magistrate (doge = dux = duke), who became the minion of a few, and whose government became an ensample of tyranny and corruption. Napoleon I. overthrew its government in 1797, and in 1815 it was handed over to Austria, by which this province was ceded to Italy in 1866.

Venice (130,000), "Queen of the Adriatic," occupies a cluster of 72 isles in the midst of lagoons, giving it the appearance by night of a floating city. A bridge of 200 arches links it with the mainland; and canals are used instead of streets, the gondolas serving as carriages.

The real streets are very narrow. The tide rises only three feet; but the current which enters the Adriatic proceeds along the Dalmatian coast, and winds through the lagoons. The square of St. Mark, in the centre of the city, is most admired by foreigners. An arsenal, dockyard, and palace, all little used, are imposing monuments of its former greatness. It is a free port.

Padua (45,000) (*Brenta*) is the seat of a university, in which Galileo was a professor; has a botanic garden, a cathedral, and a public library. **Vicenza** (30,000) is extensively engaged in silk trade. It has also trade in corn, wine, linens, and woollens. **Adria**, though formerly on the coast, is now 15 miles inland. It gave name to the Adriatic. The famous **Quadrilateral**, considered impregnable, consists of the fortresses—**Mantua** (30,000), on an island in the Mincio, is entered by five gates, and is beautifully built. It has a cathedral, university, some elegant churches, two synagogues, and trade in silk, leather, and paper—taken by the French 1797; Allies, 1799; near it Virgil was born; **Peschiera** (3,000) stands where the Mincio leaves lake Garda. **Verona** (60,000) (*Adige*), also entered by five gates, is strongly fortified, and has good dye-works and silk-mills. A congress was held here of the European powers, in 1822, to prevent the encroachments of Russia on Turkey: **Legnago** (*Adige*) is the fourth fortress. **Chioggia** (27,000) is on the lagoons near Venice. **Bassano** (14,000) (*Brenta*) has manufactures of straw hats. **Udine** (20,000) is an important town in the N.E.

5. **Æmilia** embraces the district between the Apennines and the Po. It includes the late duchies of *Parma* and *Modena*, with a portion of the once Papal States.

Parma (45,500) is a town of ancient date, with a university (suppressed 1831), and a cathedral, both of considerable merit.

Piacenza (35,000) (*Po*) is a handsome city, with good public buildings. **Modena** (36,000) (*Panaro*) has some good colleges and schools. **Reggio** (20,000) was the birthplace of Ariosto and Corregio. **Bologna** (90,000) (*Reno*) is a large university city connected with Florence by a railway; has trade in silk, glass, etc. **Ferrara** (20,000) is a decayed old town, with a university. **Ravenna** (60,000), now 6 *m.* inland, was once a seaport of importance—was last capital of the Roman empire, and chief station for the fleet. **Rimini** (*Ariminum*) (17,000) (*Adriatic*) is a decayed port.

6. **The Marches** formerly belonged to the "States of the Church." They lie between the Apennines and the Adriatic. The inhabitants are engaged in agriculture.

Ancona (45,000) is an active commercial port, built in the form of

an amphitheatre. It is an episcopal city, and has some Roman remains. It exports grain. On the banks of the Metauro (*Metaurus*), a little N., the Romans overthrew Hasdrubal B.C. 204.

Loreto (6,000) has a magnificent church which is much frequented by devotees. Urbino, the birthplace of Raphael, is now noted for its painted pottery, called Majolica.

7. **Umbria** is an inland district, occupying the upper basin of the Tiber, and traversed by the Apennines.

Perugia (18,000) stands 80 miles N. of Rome, with a university and some silk trade. A few miles distant stands the lake of *Sancedram*, Thrasymenus, on whose shores Hannibal defeated the consul Flavius B.C. 217.

8. **Tuscany** lies between the Apennines and the Mediterranean, is level towards the sea, elevated in the interior, but generally very fertile. Here the best olive oil is profusely produced. Straw plait, for straw hats, is made extensively. The *Arno* and *Ombrone* are the chief rivers; but the low lands near their banks are subject to malaria. The island of *Elba* lies a few miles off the coast. It was the residence of Napoleon I. in his exile in 1814.

Florence (115,000), called "Florence the Beautiful," in the Garden-valley of the Arno, charmingly combines mediæval grandeur with modern elegance in its noble mansions. It is in shape a pentagon surrounded by a wall, and entered by eight gates. It possesses many spacious galleries of the fine arts, libraries, and churches—a splendid cathedral, a ducal palace, etc. Its manufactures include silks, carpets, straw hats, porcelain, and jewellery. In the middle ages Florence was the seat of a powerful republic. It is the birthplace of Danté, and of Pope Leo X.

Arezzo (11,000), at the foot of the Apennines, once important, is now a decayed town. Leghorn (100,000) (*Mediterranean*), the port of Florence, is a well built town of great commercial importance. Great numbers of "Leghorn hats" are exported. It is a free port. Pisa (31,000) (*Arno*), with a university, has some fine public buildings, but a declining trade. It is remarkable for a "leaning tower," which is 188 feet high, and diverges fifteen feet from perpendicularity. Lucca (22,000) (*Serchio*), with good baths, is in a pleasant plain, surrounded by hills, and has trade in oil and silk. Siena (23,000) has a university and renowned marble quarries.

9. **Neapolitan Provinces** include the whole of the S. of the Peninsula, and with great natural advantages com-

bine a fine climate and luxuriant productions; but the inhabitants are poor and very inactive. The chief productions are maize, olives, wine, and fruit, with plenty of fish. It contains two of the four active volcanoes of Europe. The island of *Ischia*, with mineral baths, lies off the bay of Naples, and yields sulphur.

Naples (452,000), the largest city of Italy, stands on a beautiful bay, the shores of which are studded with villas, olive and orange groves, vineyards and orchards, with nice plantations in the neighbourhood. The streets are narrow, and the number of public edifices rather below the average. The industry consists in silk, cotton, and cloth manufactures, with fishing, trade in fruits, essences, and wine.

Capua (16,000)* (*Volturno*), archiepiscopal city, is strongly fortified. Gaeta (13,000) (*Mediterranean*) is another stronghold, the refuge of the Pope in 1848, and of Francis II. when he was driven from Naples in 1860. Salerno (29,000) is further S. on the coast, with excellent oranges; and Reggio (20,000) is the port for the island of Sicily. It exports citrons, oranges, and oil. Taranto (27,000) is an old decaying town. Brindisi (12,000) (*Adriatic*) is the port of embarkation for Alexandria on the "overland route." Bari (18,000) (*Adriatic*), and Barletti (22,000), on the gulf of Manfredonia, are also active ports. Foggia (35,000) is the centre of trade in corn, cheese, cattle, and wool. Aquila (*Pescara*), the birthplace of Sallust, and Nola, where Augustus died, and where bells were first used in churches, are small towns. Arpino was the birthplace of Cicero. Portici, near the site of Herculaneum, and the ports Otranto and Gallipoli, are small towns with local trade. Sorrento, the home of Tasso, is on the coast. Maida was the scene of a victory, under Sir J. Stewart, in 1806.

10. **Papal Provinces**, now annexed to the kingdom of Italy, lie along the Mediterranean, stretching S. of Rome about sixty miles, and N. of it about the same distance. In the S. are the *Pontine Marshes*, very unhealthy, and much needing drainage. The industry is not much developed.

Rome (244,500), the capital of the Catholic world, and once the mistress of many nations, stands about 16 miles from the mouth of the river, which divides it into two unequal parts. The walls extend outside the city, and have a circuit of 15 miles. The chief

* Revolted to Hannibal after his victory at Cannæ, B.C. 215; taken by the Romans after a siege in the following year.

street is the Corso, which is long and wide; but many of the others are narrow and dirty. The public buildings are superb—the Vatican, the residence of the Popes, contains the richest collections of ancient and modern art, with a library and MSS. in all languages. Rome has a University, founded 1244, and an astronomical observatory: 364 churches are scattered through the city—St. John Lateran, in which the Popes are crowned, being the metropolitan; but St. Peter's resembling St. Paul's in London, being the most magnificent. It cost ten millions sterling, was 176 years in building, and covers eight acres. The Catacombs, which were used by early Christians as places of refuge and concealment, are of great interest. The galleries of which they consist turn and wind in many directions; and some of the cells were used as places of sepulture. It has trade in silks and perfumes. **Civita Vecchia** (12,000) (*Mediterranean*) is a free port, with rich alum mines near, and considerable trade by sea. **Viterbo** (21,000) stands inland; **Ostia**, at the mouth of the Tiber, is almost deserted. **Tivoli** and **Terracina** (*Anxur*) may only be named; the latter is in the S. of the province.

11. **Sicily** is of a triangular shape, with many fine harbours around the coast, a fertile interior, a luxuriant vegetation, and some delightful scenery. The enormous volcano, Mount *Etna*, on the E., has good vegetation around the base, above which is a woody zone of oak, beech, and chestnut, interspersed with some pasture land. On the N. coast lie the *Lipari* isles, all of volcanic nature. Sicily produces grain, sulphur, wines and dried fruits.

Palermo (220,000) has wide streets, fine squares, and handsome public buildings, a university, botanic garden, and an observatory, with trade in wine and fruits. It stands on a fertile plain, commanding a fine sea view. In 1282 the "Sicilian Vespers" were enacted here, when the inhabitants, on Easter Sunday, massacred the French garrison.

Messina (70,000) (*Strait of*) is a good commercial port, with a good harbour, fine public buildings, and mountains in the background. **Catania** (84,000) (*E. coast*) has silk trade and exports of grain. **Marsala** (34,000) (*W. coast*) has exports of excellent wine, to which it gives its name. **Bronte** (12,000) has paper mills, and trade in almonds, oil, and wine. **Syracuse** [*Siragosa*] (20,000), on a splendid bay, is a decayed town, taken by the Romans under Marcellus, after a siege in the defence of which Archimedes the Mathematician took a prominent part, and perished before its surrender, B.C. 211. **Trapani** (26,000) exports coral, salt, and wheat; **Girgenti** (20,000) grain, almonds, and sulphur; **Lipari** (14,000) precious stones and sulphur; **Castelamare** (15,000) (*Coast*) is a watering place.

12. **Sardinia**, a little larger than Sicily, is hardly so

fertile. The vegetation is delightful. The vine, olive, orange, myrtle, arbutus, flourish, and form cover for the wild boar, deer, quail, and partridge. This island, like Sicily, was one of the granaries of the Romans. The inhabitants, though hospitable, are said to be indolent, crafty, and revengeful. On the N. is the gulf of *Asinora*, with the small isles, Caprera and Magdalena; and on the S., the gulf of Cagliari. Lead and silver mines are worked.

Cagliari (32,000) is on a hill in the S. of the island, with a good university, a cathedral, and many fine churches. All the inhabitants retire to sleep at noon, when the heat out of doors is oppressive. Sassari (27,000) in the N. has also a university, and trade in fruit, oil, and tobacco. Oristano (*Tirso*) is an active little port, with fine orange groves in the neighbourhood. *Terranova*, on the N.E., has a good harbour and active trade.

Mountains.—The Alps and Apennines have already been described; *Vesuvius*, near Naples, *Etna*, in Sicily, and *Stromboli*, on an island of the same name, are three active volcanoes.

Rivers.—The *Po*, already described, has the following tributaries: on the left, the *Dora*, *Sesia*, *Ticino* (out of L. Maggiore); the *Adda* (from L. Como); the *Oglio* (from L. Iseo); and the *Mincio* (from L. Garda). On the right it receives the *Trebia*, and the *Tanaro*. The Piave, Brenta and Adige are the most important rivers in Venetia, all carrying with them vast quantities of earth, and often inundating the plains. The Var, Arno, Ombrone, Tiber, and Volturno are on W. coast.

Coast Line, etc.—The coast line, though stretching a distance of at least 2,000 miles, has not many good bays. For want of a good tide the harbours are liable to become choked, particularly on the E. On the W. side good harbours are at Genoa, Spezzia, Gaeta, Leghorn, and Naples. The gulf of Genoa, though large, is of little depth; but the coast in this part exhibits considerable beauty and variety. The coast around the gulfs of Naples, Manfredonia, and Salerno is very picturesque. The gulfs of Taranto, Squillace, Eufemia, may be named.

Minerals.—The minerals are valuable—marble, alabaster, alum, and sulphur are the most important.

Education.—Great efforts are being made at present to spread education in the Kingdom of Italy. A short time since only one in six of the inhabitants, on an average, could read.

Railways.—The principal railway runs from France through Mont Cenis, passes Turin, Novara, Milan, Piacenza, Parma, Modena, and

from Rimini along the coast, passing Ancona, Foggia, Barletta, and Bari, whence one line goes to Brindisi, another to Taranto. On the W. of the Apennines a railway connects Naples with Salerno, proceeds northward to Rome, thence to Pisa, Florence, and Genoa.

Lakes.—Perugia (ancient name *Thrasymenus*), in Umbria, *Bolsena*, and *Bracciano*, N. of Rome.

San Marino, which is one of the most ancient states of Europe, has already been mentioned at page 57.

British Possession.—We possess the *Maltese Group*, lying fifty miles S. of Sicily, and consisting of *Malta* (142,000), *Gozo* (16,000), and *Comino*. Cotton, honey, and fruits are the productions.

Valetta (45,000), the capital, is strongly fortified. This is the chief station of the Mediterranean fleet, and principal depôt for English merchandize in the Mediterranean. It exports raisins.

KINGDOM OF GREECE.

Greece, called by its inhabitants Hellas, ranks in historical interest above every other country, as having been the seat of liberty, the fine arts, literature, and eloquence, when most other nations were inhabited by barbarous hordes.

> "Greece, I hasten from thy shore:
> Thou'rt Greece, but living Greece no more."

Greece, to which the Ionian Islands were annexed in 1863, regained its independence in 1832. It lies between the parallels of 36° 25′ and 39° 30′ N.; and 19° 36′, and 26° E. longitude. It consists with the Ionian Isles of thirteen "nomarchies." The surface is much covered with forests of pine, with oak in the upper regions. The vegetation is, in general, rich and varied; but agriculture is still backward. Fruit, including grapes, oranges, lemons, figs, almonds, citrons, currants, constitutes an important industry. Cotton, silk, tobacco, rice, wool, and corn, are also exported.

Greece is usually divided into three parts—*Continental*; *Peninsular*, connected with the former by the Isthmus of Corinth; and *Insular*, which consists of the *Ionian Isles*, the *Cyclades*, and the *Sporades*, together with the island of Negropont.

Livadia, Roumelia, or **N. Greece,** lies N. of the gulf of Corinth. A chain of mountains, coming from Turkey, runs through it, and forms many valleys and river-basins.

Athens (44,000) is situated on two small streams; and, with the exception of the Acropolis, or citadel, and the Parthenon, or temple of Minerva, has few traces of its ancient splendour. It contains a cathedral, a cumbrous royal palace, a university, and other public institutions. **Piræus** (6,500), a pretty town, is the port of Athens.

Livadia (5,000) is considered the best town in the district. **Mesolonghi** (4,000), in the W.; was besieged in the civil wars. Here Lord Byron died, 1824 **Lepanto** (2,000) gives its name to the Gulf on which it stands.

The Morea, so called by the ancients from the resemblance of its shape to the leaf of a mulberry tree, is a peninsula terminating in three capes in the S.—*Malia* to the E., *Matapan* in the centre, and *Gallo* in the W. This district was called *Peloponnesus*. The interior is mountainous, and the shores level.

Napoli di Romania or **Nauplia** (6,000), at the head of a gulf of the same name, exports wine.

Patras (19,000), on the G. of Lepanto, is the largest town, and has extensive foreign trade. **Navarino**, on the bay of the same name, is noted for the almost total annihilation of the Turkish fleet, 1827, by the British, French, and Russian squadrons—called the "untoward event." **Argos** (8,000) is in the midst of cotton, vine, and rice plantations. **Corinth** (3,000) has few remains of its former greatness.

Insular Greece embraces the *Ionian Isles*, the island of *Eubœa*, the *Cyclades*, and most of the *Sporades*.

The *Ionian* group comprehends seven large islands, with about thirty islets. In general they enjoy a delightful climate. Their surface is rugged, coasts irregular, with many barren rocks, and heath-clad hills. Commerce is active. In general the productions are olive-oil, wine, silk, cottons, and fruits.

Corfu, the most northerly of these islands, contains the capital of the group, *Corfu* (20,000), containing a motley population, with active trade in raisins, wine, and oil. The island has many olive groves.

Paxo has Port Gai for its capital. **Santa Maura** has imposing white cliffs. **Cephalonia**, opposite the entrance to the gulf of Corinth, has a black mountain, rising 4,500 feet, clothed with pine trees. It is noted for its grapes. Its capital is *Agostoli*. **Zante** is noted for its profusion of aromatic plants, whose fragrance in spring time is per-

ceptible out at sea. It has long been famed for its currants. *Zante* (25,000) exports raisins, oil, and wine. Ithaca, or Thiaki, is mountainous, with deep ravines interspersed. Cerigo, lying to the S. of the Morea, abounds with natural caverns and produces excellent honey.

Eubœa runs parallel to the E. coast of N. Greece, for a length of 115 miles, being only 15 miles broad. A range of mountains runs along its E. shore, which is bold and rocky. It produces grain and wine in the low lands, with timber on the mountain sides. A bridge across the narrow strait connects it with the main land. Population 75,000, area, 1,700 square miles. *Egripo* or *Negropont* is a small town in the W.

The Cyclades lie in three rows, one of which seems to be a continuation of Eubœa, and one of Attica. These islands are in general rocky, bare, and naked. Syra, in the centre of the group, contains the capital, *Syra*, or *Hermopolis* (25,000), a busy port, but now declining. The other islands are:—*Siphanio*, very fertile; *Naxia*, the largest, has fruit-tree groves; *Zea* produces tanning from the acorn; *Thermia*, *Milo*, *Jura*, *Paro*, etc., may be named. Paros, on the isle of the same name, is a fortified port.

The Sporades, or "scattered" isles, are usually divided into the *Northern*, which are intersected by the 39th parallel; *Skyro*, *Scopelo*, and *Skiatho*, productive, well wooded, and well watered, are the chief. The *Western Sporades* include *Salamis*,* *Poron*, with a dockyard for the government; *Kuluri* is barren; *Egina* fertile; *Hydra* contains the town of *Hydra* (10,000), considered the capital. It became very prosperous, and took an active part in the War of Independence. With an agreeable climate, it still is a favourite resort, and has active trade.

Minerals.—Gold, silver, copper, lead, and iron, with salt and marble are found.

Rivers.—None of the rivers of Greece are important. The *Achelous* rising in Mount Pindus, and flowing S. into the Ionian Sea, after a course of 130 miles, is the largest. The *Alpheus* on the banks of which the Olympic games were practised, is in the Morea. All the rivers are nearly dried up in summer.

Industry, etc.—The climate varies considerably—the heat in summer is sometimes excessive, and the cold in winter very intense, particularly on the mountains. In autumn and winter heavy rains fall. *Agriculture* is carried on with primitive rudeness, and is very backward. The pastures are much better looked after, and Arcadia is still, as of old, the land of shepherds. The most important productions are cereals, figs, maize, rice, currants, and silk, with cotton, madder, and tobacco. The *Manufactures* consist of coarse articles of cotton and wool for domestic use, together with embroidering

* Off which the Athenians defeated Xerxes.

in gold, silver, and silk. Some ship-building, cutlery, with saddlery, etc., is carried on. *Commerce* is very extensively carried on; and the country has naturally every advantage for its development. The Greeks are active and skilful sailors. The roads are miserable, rivers unnavigable, and the country is without canals.

Education is free to all; and, consequently, most of the learned professions are over-stocked. The education system includes a large number of elementary schools, about half as many higher schools, normal schools, etc.; and, finally, the national university at Athens, with faculties of theology, philosophy, law, and medicine.

TURKEY IN EUROPE.*

Turkey in Europe is only a part of the Great Ottoman Empire. It lies S. of Russia and Austria, and N. of Greece, extending from 38° to 40° 20′ N. latitude, and from 15° 40′ to 30 E. longitude. It is washed by four seas—the Black Sea, Marmora, Archipelago, and Adriatic. The extreme distance from E. to W. is about 700 miles, and the distance N. and S. is about the same.

Strictly speaking, this country is divided into 14 eyalets; but geographers only distinguish the following provinces:—

Province.	Population.	Capital.
1. Roumelia, - -	1,300,000	Constantinople on the Bosphorus.
2. Thessaly, - -	2,600,000	Larissa on the Salambria.
3. Albania, - -	1,200,000	Janina on the Kiri
4. Herzegovina, -	300,000	Mostar on the Narenta.
5. Montenegro, -	190,000	Cettigne.
6. Bosnia, - -	600,000	Bosna-Serai on the Bosna.
7. Croatia, - -	300,000	Banialuka on the Verbas.
8. Servia, - -	1,400,000	Belgrade on the Danube.
9. Bulgaria, - -	3,000,000	Sophia on the Isker.
10. Moldavia, - -	2,000,000	Jassy on the Bachlui.
11. Wallachia - -	2,900,000	Bukarest on the Dimbowitza.

1. Roumelia is the most important and most beautiful

* The National debt has increased to about 120 millions of money, for which 10 or 12 per cent is actually paid, this being the usurious rate of interest in Turkey, where industry and commerce, the usual main-springs of wealth, are at a very low ebb. Blessed with a very productive soil, a genial climate, and rich stores of minerals, yet the country still remains poor and backward.

of the provinces. It extends nearly from the Balkan mountains on the N. to the Ægean Sea on the S. (and corresponds to ancient Thrace and Macedon), in which direction is the general slope of the country. The climate of this province is delightful. The rivers *Maritza*, *Kalusu*, *Struma*, and *Vardar* drain it. On the S. are the gulfs of Contessa, Mante Santo, Cassandra, and Saloniki.

Constantinople* (800,000), called by the Turks Stamboul, is nicely situated at the south entrance of the Bosphorus,† on a triangular promontory consisting of seven hills: an arm of the strait, called from its shape and beauty the "Golden Horn," running in for five miles, is a safe harbour. Two of the suburbs, *Galata*, the seat of commerce, and *Pera*, the residence of the foreign ambassadors and consuls, are a little distant. The city itself, though imposing when seen at a distance, resembling a mingled forest of cypress and marble minarets, consists of tortuous dirty streets, infested by savage dogs. The palace of the Sultan is an imposing structure, surrounded by high walls, and entered by eight gates, one of which is called the *Sublime Porte*. The Mosque of St. Sophia, formerly a Christian church, occupies the summit of one of the hills.

Adrianople (100,000) (*Maritza*), the second town, has a beautiful situation, and is the commercial centre of a large and rich territory. It has trade in silk, cotton, and essences. It was entered by a Russian army in 1828. *Enos* is its port. Philippopolis (45,000) (*Maritza*), is a good inland town. Gallipoli (20,000) (*Dardanelles*), is an active port, with manufactures of Russia leather. It was the first town in Europe taken by the Turks (1356). Cavilla, a small port on the N. coast of the Ægean Sea (Neapolis), was the landing-place of St. Paul on his voyage to Macedonia. Saloniki (50,000), half the people of which are Jews, is an active port. Here the French and German consuls were murdered, 1876. It was the scene of some of St. Paul's labours. Rodosto (30,000) (*S. of Marmora*), is an active port.

2. Thessaly is a luxuriant plain, having the Pindus range on the W. In the N.E. is the Vale of Tempe, of renowned beauty, about five miles long, with high cliffs on either side. This vale is compared to Killiecrankie in Scotland, which it surpasses in beauty. Here is also Mount Olympus, the ancient habitation of the gods, rising 9,754 feet.

* Here an abortive congress was held, 1876-7, of the Great Powers to patch up a peace between Turkey and her rebellious subjects.

† Bosphorus, *i.e.* the passage of the ox, or ox-ford.

Larissa (25,000) is surrounded by orange, lemon, and citron groves. It has a little cotton and silk making, with Turkey-red dye-works. Pharsala was the scene of Pompey's overthrow by Cæsar, B.C. 48.

3. **Albania** extends from Montenegro to the gulf of Arta, and borders upon the Adriatic and Ionian Seas. The surface is mountainous, the inhabitants warlike and courageous, but of a restless, haughty, and excitable disposition.

Janina (30,000) (*Kiri*), has manufactures of gold-lace, morocco leather, silks, and cottons; but its trade is declining.

Scutari (20,000) (*Boyana*), an improving place, has manufactures of fire-arms and cottons. Durazzo is a small port on a rocky peninsula, of considerable note at the time of the Cæsars, under the name Dyrrachium. Podgoritza (3,000) was the scene of fierce encounters in 1876 between the Turks and Montenegrins.

4. **Herzegovina**, in the N.W., is a rugged province, area 8,400 square miles, largely traversed by spurs from the Dinaric Alps, and peopled by Slavs, a rude and wild race, prone to insurrections.

Mostar and Trebinje are small towns. Suttorina and Klek are little ports.

5. **Montenegro**, a rugged district (the word meaning "black mountain"), is about the size of Westmoreland, and has up to the present maintained, to a great extent, its independence, among inaccessible fastnesses and shelving limestone rocks. It is governed by a hereditary prince. He receives a liberal salary from St. Petersburgh, and the people are of the Greek Church. The *Zela* is the chief river. Dobragora, Martinitza, and Ulitza are small towns.

Cetinje, the capital, is a small place near the centre.

6. **Bosnia** is bounded on the N. by the Save, to which several rivers run, the Drina being its E. boundary. It is hilly and rugged, and little productive as regards crops, but has rich iron mines.

Bosna-Serai (60,000), the capital, stands among hills, and has very active trade in iron and copper. Trees abound in the streets, and above 100 mosques are scattered through the town.

Travnik (7,000) is the residence of the governor of the province, and is fortified, as well as Zvornik on the Drina.

7. **Croatia** lies in the extreme N.W., and is traversed by mountain ranges. It much resembles Bosnia in its inhabitants, and physical features.

Banialuka in the interior, Novi (*Unna*), on the Austrian frontier and Krupa in the west, are small places.

8. **Servia**, with its base on the Danube, projects into Turkey like a wedge, and has a beautifully varied surface, in many places nicely wooded, and drained by the Morava, the Drina, and Timok. From the plum, their most plentiful fruit, they make a kind of brandy, the common beverage. Vast herds of swine are reared in the woods. The Morava valley is full of morasses, though in most places the surface has variety and beauty.*

Belgrade (30,000) at the confluence of the Danube and Save, is of great historical interest, as the most advanced of the Mahometan fortresses, the scene of many a bloody struggle. It is well situated for trade, and has an increasing commerce by river and rail. Semendria (10,000), at the confluence of the Morava and Danube, is strongly fortified. It has trade in pigs and grain.

9. **Bulgaria** is a province, extending from the Danube to the Balkan mountains, the surface sloping gradually towards the river.† Though exceedingly productive, it "is almost a desert sleeping in the bonds of Ottoman thraldom."

Sophia (30,000) (*Iskor*), is a handsome town near the Balkans, one of the passes of which it defends. It has trade in silk, leather, woollens, iron, and tobacco.

Schumla (26,000) also occupies an important strategic position and defends the great eastern pass of the same mountain range. It has manufactures in metals and silk. Varna (15,000) is a fortified and silent port on the Black Sea, where the allies encamped, 1854. Palanka, Widin, Rustchuk, and Silistria (18,000) are on the Danube, and have an active commerce in grain, tallow, wool, etc. Silistria was taken by Russia, 1828. At *Silistria* the Turks repulsed the Russians in 1854.

10. **Moldavia**, with *Wallachia*, are called the *Danubian Principalities*, and more recently *Roumania*. They are only nominally subject to Turkey.‡ Moldavia lies partly between Austria and Russia, and is a great grain-producing district.

* At *Alexinats* and *Deligrad* were fierce struggles between the Turks and Servians in 1876, resulting in the triumph of the former. The Peace of Paris, 1856, made Servia a semi-independent kingdom.

† Strictly, this province extends considerably S. of the mountain.

‡ They conjointly pay a tribute to Turkey of £40,000 per annum; and the Porte confirms the election of their prince. The capital is Bukharest.

Jassy (100,000) stands on two lofty hills, amidst orchards and acacia trees. It has many churches and synagogues, 60,000 of its inhabitants being Jews, who monopolize all trade and commerce. It is a great agricultural mart, swarming with busy artisans.

Galatz (40,000) is a very active port on the Danube, with immense exports of grain. The position is unhealthy. Steam-boats ply to Vienna and to Constantinople. **Ismail** is a fortified town nearer to the mouth of the river.

11. **Wallachia** lies S. of the Carpathians and N. of the Danube, and is very similar in climate and productions to Moldavia.

Bukharest (144,000) is irregularly but picturesquely built, said to be the most dissolute town in Europe; all classes are inveterate gamblers. It has transit trade in grain.

Ibrail (10,000) has considerable trade by the river. **Kalafat** is opposite Widin; **Oltenitza** is on the N. bank; and **New Orsova** at the iron gate of the Danube.

Islands.—The islands belonging to Turkey consist of *Thaso, Samothraki, Imbros, Lemnos*, and *Candia*.

Candia (ancient *Crete*) extends about 160 miles from E. to W., and in some places is only 10 miles wide. It is traversed by a chain of mountains, in which is Mount *Ida*, a mass of gray limestone, 7,000 feet above sea level, said to have been the residence of Jupiter in his youth. *Candia* is very fertile, well watered, and productive of grain, dried fruits, wax, and honey. The population is about 160,000, most of whom are Greeks.

Candia (12,000) was fortified by the Venetians when they possessed the island. **Retimo** and *Canea* are active ports.

Coast.—The coast, particularly on the Archipelago, is very irregular. Here it contains several gulfs, which form good roadsteads in most instances.

Mountains.—A continuation of the Alps runs N. of Herzegovina and Albania, and forms two chains at the N.E. point of the latter province—one going S. forms the boundary between Albania and Roumelia, sends spurs out E. and W., and forms the northern boundary of Greece; the other forms the boundary between Servia and Roumelia, connects itself with the Carpathians at the Iron Gate of the Danube, proceeds E. under the name *Balkan*, proceeding direct to the Black Sea. From the Balkan range the *Despoto* mountains run S., but near the gulf of Lagos turn N.E., and end near Adrianople.

Rivers.—the great Balkan range divides Turkey into two basins—

the N., or *Danube*, and the S., or Archipelago. The *Danube*, which enters the sea by many mouths, has several Turkish tributaries. On the N., the *Pruth*, which rises in Galicia, flows in a deep valley past Czernowitz, passes S. through Moldavia, and enters the Danube twelve miles below Galatz, after a course of 500 miles. The *Sereth*, which joins the Danube a little above Galatz, runs parallel with the former, and receives several smaller streams. The *Aluta*, and several other rivers water Wallachia. On the S. are, in Bulgaria, the *Taban*, *Jantra*, and *Isker*; further W., the *Morava* and *Drina*, *Verbas*, and *Unna*. Flowing into the Archipelago, the *Maritza* is the most important. It rises in the W. of Roumelia, passes Philippopolis, is joined by the *Tunja* and *Arda* at Adrianople, and going S., enters the sea at Enos. The Struma, further W., flows into the gulf of Contessa, and the Vardar, into the Gulf of Salonika. A few small rivers flow into the Adriatic and Ionian seas.

Inhabitants.—The following are the principal races that inhabit Turkey:—The *Slavs*, which include the Servians and Bulgarians, in all about four millions; the *Greco-Latins*, including the Greeks, Roumanians, and Albanians, about two and a-half millions; the *Armenians*, *Jews*, Gipsies, and Circassians, etc., about 100,000 each. The Turks are proud and haughty, indolent in peace, but active in war; hospitable and showy, and in religion fanatic. They retain most of the manners and customs of the East; but drunkenness has increased much of late.

The following is an estimate of the numbers of the various religious sects in Turkey:—Mussulmans, four and a-half millions; Greeks and Armenians, ten millions; Catholics, three quarters of a million; Protestants, Jews, etc., a quarter of a million.

Education.—Each village and each quarter in a city must maintain a primary school. Preparatory schools are of a higher class; and in every chief town of a district a school still more important, called a Lyceum, is kept. Training schools for teachers are in operation; and, finally, the national university is in Constantinople. Many wealthy Turks, however, send their sons to be educated in France or Britain.

Industries, etc.—Although the soil is very fertile, yet the system of agriculture is so very backward that much progress has not yet been made. The commerce is increasing. The exports, including gall-nuts, tobacco, oils, goatskins, figs, etc., are of considerable importance.

Railways connect Varna with Rustchuk, and Custendji with Tchernavoda—two ports on the Black Sea with two on the Danube. A new line has been opened from the capital to Adrianople, but the ordinary roads are few in number and of the worst description.

EMPIRE OF AUSTRO-HUNGARY.

This, the most ancient empire in Europe, lies S. of Saxony, Prussia, and Russia; E. of Bavaria and Switzerland; and N. of Turkey and the Adriatic. It extends 785 miles from E. to W., and about 600 from N. to S.

Generally speaking, it lies between the parallels of 42° and 51° N., and the meridians of 8° 20′ and 26° 20′ E. longitude. It was formerly the leading German state, but since 1866 it has been entirely excluded from Germany, and is now a kind of dual state.

The only sea that washes Austria is the Adriatic. The surface of the country exhibits great variety. Except in the Hungarian swamps, the climate is healthy. Among the Alps of the Tyrol, more rain falls than in any other European district.

Austria contains the following provinces:

Provinces.	Area, Sq. mls.	Population.	Capital.
1 Lower Austria,	7,658	1,762,784	Vienna, on the Danube.
2 Upper Austria,	4,634	719,427	Linz, on the Danube.
3 Styria.	8,674	1,091,647	Gratz, on the Muhr.
4 Carniola,	3,858	475,437	Laybach, on the Save.
5 Carinthia,	4,007	342,656	Klagenfurt, on the Glan.
6 Tyrol,	11,321	878,733	Innspruck, on the Inn.
7 Salzburg,	2,768	146 870	Salzburg, on the Salza
8 Bohemia,	20,763	5,153,602	Prague, on the Moldau.
9 Silesia,	1,988	493,825	Troppau, on the Oppa.
10 Moravia,	8,579	2,009,572	Brunn, on the Schwarza.
11 Galicia,	30,320	5,147,021	Lemberg, on the Peltew.
12 Bukowina,	4,037	516,418	Czernowitz, near the Pruth.
13 Coast Districts,	3,085	566,666	Trieste, on the Gulf of Trieste.
14 Hungary,	80,876	10,814,206	Buda-Pesth, on the Danube.
15 Croatia,†	7,445	962,031	Agram, on the Save.
16 Transylvania,	19,222	2,095,215	Klausenburg, on the Szamos.
17 Dalmatia,	4,942	446,660	Zara, on the Adriatic.
18 Military Frontier.	10,956	1,131,502	Peterwardein, on the Danube.
Total.	230,000	34,754,262	

* German, *oesterrich*, east. † And Slavonia

1. **Lower Austria**, containing the capital, constitutes with Upper Austria an archduchy, which extends on both sides of the Danube, and formed the nucleus of the empire, to which the other provinces were gradually attached.

Vienna (1,000,000) stands on the S. of the Danube, and is a splendid city, with dwelling houses of vast extent which accommodate several families, an extensive commerce, with manufactures of silks, lace, hardware, porcelain, musical instruments, carriages, and paper. It contains barracks, libraries, museums, and is surrounded by fortifications. The old wall has been thrown down, and the suburbs are regularly built with wide streets. The city is well fortified. It is the birthplace of Haydn.

The principal interest in Vienna consists in its historical associations. In 1529 it was unsuccessfully besieged by the Turks under Soliman the Magnificent; and again in 1683 by the Turks, who were defeated under its walls by John Sobieski, afterwards king of Poland. In 1815 the Congress sat here that settled the state of modern Europe. In 1873 was the celebrated Exhibition.

Schonbrunn, about 2 miles distant, contains the emperor's palace. Nearly opposite Vienna are the villages of Aspern, Esling, and Wagram, remarkable for fierce battles between Napoleon I. and the Austrians. Near is the Castle, *Durenstein*, where Richard I. was imprisoned. Neustadt (18,000) has a military academy.

2. **Upper Austria** is a rather rugged district, with fine woods on the hill-slopes, and romantic valleys between the elevations. The river Ens divides it from Lower Austria.

Linz (34,000), with a capacious market-place, stands on the S. bank of the Danube. The town is surrounded by many snow-clad mountain tops. It has an extensive tobacco manufactory.

Ebensee has extensive salt works; and Steyer, (10,000), on the Ens, has manufactures of cutlery.

3. **Styria** is a mountainous district further S., with rich iron mines of the best ore, and many medicinal springs. The Save is its S. boundary, and the Drave runs through the centre. Forests are in the highlands. The inhabitants are quick and athletic

Gratz (90,000), on the Mur, is an important mercantile city, with university, and some hardware manufactures.

Eisenerz is in the midst of the iron-mining district. Its steel is reputed the best in Europe.

4. **Carniola** is much overspread by spurs and chains from the Alps. It is watered by the Save. It contains a splendid mine of quicksilver at *Idria*, and the peculiar lake *Zirknitz*, which periodically disappears and re-appears.

Laybach (23,000) is an episcopal city, remarkable for a Congress in 1821 of most of the European powers. Mines of lead, quicksilver, and iron are in its vicinity.

5. **Carinthia**, further N., is chiefly drained by the Drave. Its surface is also mountainous, and the most prolific lead mines are found here. An important aromatic herb, called *Speik*, which gives a flavour to tobacco, is greatly exported from this country. Cattle rearing is an important industry.

Klagenfurt (15,000) is an active, industrious town, with silk, cloth, and muslin factories. It stands in the midst of delightful scenery, and was the scene of a battle in which the Turks were defeated, in 1492, by the Christians.

Bleiberg is in the centre of the lead mining district.

6. **Tyrol** lies E. of Switzerland, of the mountainous character of which it fully partakes, consisting of snow-capped peaks, narrow valleys, glaciers, and glens. The inhabitants are good marksmen and fond of field sports.

Innsbruck (18,000) is a small town, in a valley surrounded by high mountains, and has some transit trade. Here the gallant Hofer drove out the French, 1809. Silver and copper mines are near.

Hall has salt mines. Trent (14,000) (*Adige*), was the seat of the celebrated Catholic Council, 1545 to 1563. Brixen and Botzen partake greatly of the nature of Italian towns. Imst exports many canaries.

7. **Salzburg**, a small, picturesque province, lies on the Bavarian frontier. It is very mountainous, and is traversed by the River *Salza*, which runs through a nice valley. Salt mines are here actively worked.

Salzburg (18,000) is surrounded by mountains covered with verdure. It has a beautiful cathedral, and was the birthplace of Mozart.

Gastein, a small town with mineral springs, was the place where

Austria and Prussia made a convention in reference to the Danish Duchies, 1865. Durrenberg has salt mines of considerable note.

8. **Bohemia**, in the N.W., is a great plateau walled in by mountains, with a mild climate and a productive soil. It has long been noted for its ornamental glass. The surrounding mountains consist of the *Böhmerwald* or "Bohemian Forest" on the S.W., the *Erzgebirge* on the N.W., *Riesengebirge* on the N.E., and the Moravian mountains on the S.E. Many mineral springs are scattered over the country.

Prague (190,000) stands near the centre of the country. It has the palace of the old Bohemian kings, and a university. It is the chief commercial and manufacturing town of the kingdom. In 1620 the Austrians here defeated the Elector Frederick, son-in-law of James I. In 1757 the "Battle of Prague" resulted in the defeat of the Austrians by Frederick the Great of Prussia.

Seidlitz gives its name to the well-known effervescent powders. Konnigratz, in the N.E., was the scene of the defeat of Austria by Prussia, 1866, called the "Battle of Sadowa." Carlsbad, an aristocratic watering-place, has hot springs. Toplitz, near the Saxon frontier, has also warm springs, much esteemed. Pilsen is in the S.W.

9. **Silesia** adjoins the Prussian province of the same name, and is to a great extent mountainous.

Troppau (14,000) (*Oppa*), is a strongly-fortified town, noted for the manufacture of fire-arms.

10. **Moravia** is a fertile and highly-productive region in crops of flax, hemp, and grain. It is separated from Silesia by the Sudetic mountains.

Brunn (60,000), with extensive woollen factories, has been called the "Austrian Leeds," and contains silk, leather, cotton, linen, dyeing, and glass works.

Olmutz (14,000), strongly fortified, is the seat of a university, and has good baths. Iglau (10,000) has also woollen factories. Austerlitz, the scene of Napoleon I.'s great victory over the Russians and Austrians in 1805, is a little E. of Brunn.

11. **Galicia** lies N. of the Carpathian mountains, and formerly belonged to Poland. It is one of the greatest grain-producing countries in the world. On the W. it is drained by the Vistula; on the E. by the Dniester.

Lemberg (87,000) is the seat of a university, and a library rich in Polish literature. Most of its wealthy merchants are Jews. It has an immense transit trade in grain to be shipped at Odessa.

Cracow (51,000), now attached to this province, was once the capital of Poland. In 1815 it was made an independent republic, which was absorbed by Austria in 1846. Wieliczka, near it, has celebrated salt mines, which have been worked for centuries. Galicz, the oldest town, gave its name to the province. Brody (18,000) is the great *entrepôt* of the grain trade with Russia and Turkey. It is near the Russian frontier.

12. **Bukowina** is a forest region on the S.E., which was ceded by Turkey in 1777. It is traversed by the Sereth and Pruth, and by the Carpathians on the S.

Czernowitz (26,000), the capital, is a small town with manufactures of clocks and hardware, connected by rail with Lemberg and Cracow.

13. **The Coast Districts** include the peninsula of Istria, and several islands to the E. This region penetrates inland as far as Carinthia, is generally mountainous, and is often called *Kusteniand*.

Trieste (110,000) the chief seaport of Austria, is frequently denominated, from the activity of its trade, the "Southern Hamburg." It is a free port, inhabited by a mixed race of southern Europeans.

Goritz (13,000), on the Isonso, has some trade, and is on the railway between Venice and Trieste. Pola is the station of the fleet.

14. **Hungary** is almost all one vast plain, traversed by the *Danube* and its tributary the *Theiss*. The plain in some places teems with vegetable wealth, though in other places it is marshy. A few barren tracts, called *Puszta*, are incapable of cultivation; but for the most part waving corn abounds. Soda lakes are scattered over the surface. The mineral wealth is abundant. Wine is extensively exported. The river *Waag* is very picturesque.

Buda-Pesth (270,000), consists of two towns, one on each side of the river, which is here 2,000 feet wide and 27 deep, with a strong current. They are connected by a suspension bridge. Buda has hot springs. This city has a University, and is the great centre of the trade of the country with the Danube and the interior.

Comorn (11,000) is a strong fortress at the junction of the Waag and Danube. **Presburg** (43,000), on the W. border, was once the capital of Hungary. **Cremnitz** is in the midst of gold, and **Schemnitz** (13,000) in the midst of silver mines. The latter has a famous mining school. **Tokay** is the centre of the Hungarian wine trade. **Debreczin** (36,000) and **Ketskemet** (40,000) have very large fairs. **Szegedin** (60,000), on the Theiss, has active commerce and manufactures. **Neusatz** is the centre of trade with Turkey. **Raab** (17,000), on the river of the same name, was the scene of a battle between the Turks and Christians. Here the French defeated the Hungarians in 1809. **Temeswar** (12,000) is the capital of the Banat district. **Erlau** is in the vine district. **Pistyan** has admirable hot springs.

15. **Croatia**, in the S.W., is a rugged district, S. of the Drave, and with *Slavonia* forms a province.

Agram (24,000), in Croatia, is the capital, and stands pleasantly among hills and forests. **Fiume** (15,000) is a small free port on the coast. **Essek**, the capital of Slavonia, stands on the Drave, and has good wines.

16. **Transylvania**, lying E. of Hungary, is greatly covered by the Carpathians, and contains much wild scenery. Its winters are long and severe; its summers short and warm. It has considerable mineral wealth. Swine are fed in the woods in great numbers.

Klausenburg (25,000) is a walled town, entered by six gates, and has manufactures of woollens, china, and paper.

Hermanstadt (18,000), the military capital, is strongly fortified. **Kronstadt** (29,000) is near the Turkish frontier.

17. **Dalmatia** is a narrow rugged district lying along the eastern shore of the Adriatic, which has here numerous islands—*Grossa*, *Brazza*, *Lissa*,* *Lesina*, *Curzola*, *Sabioncello*, *Meleda*, &c. The country is traversed by the Dinaric Alps. The inhabitants are poor and idle.

Zara (10,000), the capital, is strongly fortified, and is situated on a good harbour.

Ragusa is a strongly fortified port, with increasing trade. **Cattaro** is the most southerly port in the province. **Spalato** (15,000) has vast remains, showing its former importance.

* Off Lissa, was the scene of the defeat of the Italian by the Austrian fleet, 1866.

18. The **Military Frontier** extends along the Turkish border for about 500 miles, with a breadth varying from 50 to 10 miles. Guard-houses are arranged at regular intervals, with occasional fortresses. The inhabitants are trained to war, and are expected to take the field at a very short notice. This arrangement is due to Prince Eugene, who inaugurated it when the Turks were formidable.

Peterwardein (7,000) (*Danube*), a small town, is a lofty fortress, near which Peter the Hermit marshalled the first Crusaders.

Semlin (1,300) is the fortress corresponding to the Turkish fortress, Belgrade. It is a small place where steamers stop. **Orsova** is at the Iron Gate of the Danube.

Mountains.—The different branches of the Alps which enter Austria have been described. Two passes are in the Austrian Alps —the *Brenner*, between the valleys of the Inn and Adige, and the *Stelvio*, between the basin of the Inn and that of the Adda, which is the highest carriage road in Europe, being 8,850 feet high. The *Bohemian* mountains and the *Sudetic*, already mentioned, form a rampart between Austria and the rest of Germany.

Rivers.—Austria contains a portion of the following large rivers—the Danube, Elbe, Oder, Vistula, Dniester, and Adige. Most of these have been already mentioned in detail. The most important tributary of the Danube is the *Theiss*, which, with its tributaries, the *Szamos*, *Koros*, and *Maros*, drains the greater part of Hungary. The *Gran*, *Waag*, and *March*, are N. tributaries of the Danube further W. The *Save*, *Drave*, and *Raab* are S. tributaries. In Bohemia, the *Moldau* is the chief river; in Galicia, the *Dniester*; in the Tyrol, the *Inn*. The *Traun* flows 110 miles, entering the Danube near Linz.

Lakes.—The two large inland lakes have been described at p. 69.

Coast Line.—On the Adriatic are the bays of Fiume, Cattaro, and Trieste, all of which are much secluded from the remaining Austrian provinces by large mountains. A number of islands fringe the coast.

Minerals.—In minerals, Austria is exceedingly productive. Its richest gold mines are in Transylvania, in which some forty mines of this metal are worked. Silver is obtained in abundance from the mines in Hungary. Copper is found in various provinces; lead is also widely distributed; iron, though not extensively worked, for want of fuel, is produced of the very best quality. Tin is raised in Bohemia; and quicksilver at Idria, in Carniola; zinc in many places; salt in Galicia. Many precious stones are obtained in Bohemia and Hungary. Mineral springs are very numerous.

Manufactures.—*Linen* is confined to Silesia, Bohemia, and Moravia; *woollens* to the two last-named provinces. The other manufactures consist of silk, hardware, cotton, cigar-cases, etc. Wine is largely exported from Hungary.

Inhabitants.—Six distinct races inhabit this empire, which, owing to their jealousies and disagreements, has been often subject to dangerous political agitation.

Nearly one-half the whole population are *Slavs;* the *Czechs* number in Bohemia 3,200,000, generally occupying the centre and the East. Of the population of Prague three-fifths are Czechs. The *Germans* dwell chiefly in the archduchy, in Styria, and the Tyrol, and include about two millions of the commercial and educated classes in Bohemia. The *Magyars*, who form the dominant race in Hungary and Transylvania, number more than five millions. The *Poles* are found in the provinces of Silesia, Galicia, and Bukowina. The *Italians* are in the Tyrol and the coast districts. The *Valaks* are in Silesia and Moravia, and speak a corrupt Latin.

Railways.—Two lines run across Bohemia, one through Prague, the other through Pilsen, towards Vienna, whence proceed lines to Buda-Pesth on both sides of the Danube. From Vienna a line runs S. to Trieste; another from Gratz to Essek along the Save. From Pesth several lines diverge through Hungary in various directions.

THE GERMAN EMPIRE.

Germany* is bounded on the N. by the North Sea, Denmark, and the Baltic; on the E. by Russia and Austria; on the W. by Holland, Belgium, and France; and on the S. by Switzerland and Tyrol. Generally speaking, it extends from 45° to 50° N. latitude, and from 6° to 19° E longitude.

The surface is naturally divided into four physical regions. (i.) The low plain in the N., extending from the confines of Holland to Russia, about 600 miles, with a gradual slope northwards. In some places this plain is little productive, but along the river banks a deep alluvial soil is found. (ii.) The central mountain region, including the Harz, Erze, Sudetic, Oberwald, etc. (iii.) An elevated plain, which includes the Bavarian table land, and extends 180 miles from

* The term Germany is usually applied to those districts of Central Europe in which the German language and race prevail, and includes, besides the provinces tabulated below, some Austrian provinces and some Swiss cantons.

N. to S. by 120 broad. (iv.) The rugged Alpine district in the south, already sufficiently described.

At the treaty of Vienna, in 1815, Germany was re-organized as a number (39) of confederate states, with Austria at their head, and Frankfort-on-the-Main as their capital. After the defeat of Austria by Prussia, in 1866, the former was excluded from all participation in German affairs, and Germany was reconstituted into the North and South Germanic Confederations, with Prussia at the head of the former, and Bavaria at the head of the latter. The river Main formed the boundary line, and Hanover, with many other states, were incorporated with the North. After the German successes in France, 1870, the German empire was revived, and at the solicitation of plenipotentiaries from all the German states, William, King of Prussia, was installed Emperor of Germany, at Versailles, 1871, and this dignity declared hereditary in the Kings of Prussia. In addition to the numbers given in the following table, it is computed that 12 millions of Germans dwell in the surrounding states, chiefly in the provinces of Austria just referred to.

NORTH GERMANY.

States.	Square Miles.	Population, 1867.	Capital.
1 Prussia, - -	135,778	24,693,000	Berlin, on the Spree.
2 Saxony, - -	5,779	2,556,401	Dresden, on the Elbe.
3 Mechlenburgh-Schwerin	5,189	557,618	Schwerin.
4 Saxe Weimar, - -	1,403	283,044	Weimar.
5 Mechlenburgh-Strelitz,	908	96,770	Neu-Strelitz.
6 Oldenburg, - -	2,470	315,622	Oldenburg.
7 Brunswick, - -	1,425	302,792	Brunswick, on the Ocker.
8 Saxe Meiningen, -	914	180,335	Meiningen.
9 Saxe Altenburg, -	510	141,426	Altenburg.
10 Coburg and Gotha, -	764	168,735	Gotha.
11 Anhalt, - -	1,026	197,041	Dessau.
12 Schwartz Rudolstadt, -	371	75,116	Rudolstadt.
13 Schwartzburg Sond, -	328	67,533	Arnstadt.
14 Waldeck, - -	432	56,807	Corbach.
15 Reuss Schleitz, -	144	44,000	Gera.
16 Reuss Greiz, - -	320	88,000	Greiz.
17 Schaumburg Lippe, -	172	31,186	Bukeburg.
18 Lippe Detmold, -	438	111,352	Detmold.
19 Lubeck, - -	107	48,538	Lubeck.
20 Bremen, - -	74	109,572	Bremen, on the Weser.
21 Hamburgh, - -	155	305,196	Hamburgh, on the Elbe
22 Hessen, - -	1,279	852,479	Mayence (Rhine).

PRUSSIA.

Prussia extends from France on the W. to Russia on the E., and consists of a vast plain, bordered on the S. by mountains, and drained by several large rivers. It lies between the parallels of 40° 7′ and 55° 52′ N. latitude, and between the meridians of 5° 50′ and 22° 50′ E. longitude. No large river has its source in Prussia, although few countries are better watered with navigable streams.

The following table gives the provinces of Prussia, with an estimate of the population in 1871.

Provinces.	Square miles.	Population.	Capital.
1 Prussia Proper, -	25,047	3,090,960	Konigsberg, on the Pregel.
2 Posen, - -	11,401	1,537,338	Posen, on the Warta.
3 Brandenburg, -	15,609	2,716,022	Berlin, on the Spree.
4 Pomerania, - -	12,260	1,445,635	Stettin, on the Oder.
5 Silesia, - -	15,771	3,585,752	Breslau, on the Oder.
6 Saxony, - -	9,794	2,067,066	Magdeburg, on the Elbe.
7 Westphalia, - -	7,823	1,707,726	Munster, near the Ems.
8 Lower Rhine, -	10,358	3,455,483	Cologne, on the Rhine.
9 Hohenzollern, -	457	64,632	Sigmaringen, on the Danube.
10 Jahde, - -	5	1,778	Varel.
11 Hessen Nassau, -	1,811	1,379,745	Wiesbaden, near the Rhine.
12 Hanover, - -	14,855	1,937,637	Hanover, on the Leine
13 Schleswig-Holstein, -	6,755	981,718	Flensburg, on the Schlei.
14 Lauenburg, - -	403	49,973	Lauenburg, on the Elbe.

1. Prussia Proper, the most eastern province, lies along the Baltic shores, has a flat surface, interspersed with lakes and lagoons. It embraces the lower basins of the Vistula and Niemen. The winters are severe. Excellent wheat is produced in great quantities. It is usually divided into East and West Prussia, the former having many lakes.

Konigsberg (110,000) is a splendid commercial mart, with *Pillau* as its port. It stands on seven hills, has seven gates and seven bridges, with a great number of public squares, an university, a library and an observatory. Here Kant, the philosopher, resided.

Dantzic (89,000), on the Vistula, is a great fortress, with narrow streets, but handsome suburbs. It ranks as one of the greatest grain shipping ports, and has also trade in timber, flax, etc. It has large granaries, filled with corn, on an island, where no one is allowed to live, as a precaution against fire. It was taken by the French, 1807, and held until 1813. **Memel** (26,000), whose red deal is well known, is the centre of the Baltic timber trade. It is closed during the winter months. **Thorn** (14,000), on the Vistula, was the birthplace of the astronomer Copernicus. **Elbing** (30,000) is a flourishing port, with an extensive grain trade. **Marienburg** has an old castle, once the residence of the Teutonic knights. **Tilsit** (15,000) stands on the Niemen. Here occurred the celebrated interview between Napoleon I. and Alexander of Russia, with the intention of dividing Europe between them, in 1807. **Braunsberg** is near the Frische Haff. **Eylau** and **Friedland**, small towns, mark two important victories of Napoleon, 1807.

2. **Posen** borders on Russian Poland, and is a rich agricultural province, drained by the Warta. Though there are some pine-woods, which yield timber, yet the aspect of the country has a rather dreary appearance.

Posen (50,000), with a good cathedral, has trade in corn, hemp, flax, hops, and tobacco. A great number of Jew pedlars frequent it. **Bromberg** (22,000) is the second town in this province, and stands on the railway from Berlin to Warsaw. **Gnesen** is noted for a great cattle fair, lasting two months.

3. **Brandenburg,** an inland province, is chiefly watered by the Oder. A great deal of the surface, which is a plain, is not very fertile, unless what borders on the rivers and lakes. Corn, flax, hemp, fruit, and vegetables, are the chief productions.

Berlin (1,045,000), the capital of Prussia, North Germany, and of the commercial league called the Zollvercin, is a splendid city, standing in a fine plain. Here the *Spree* is crossed by 37 bridges. The city is remarkable for wide streets and spacious squares—one of its thoroughfares, extending from the Bradenburg Gate to the royal

palace, has four rows of trees, and hence is called *Unter den Linden*, "beneath the lime trees." Among the public buildings may be named, the museum, university (of great celebrity), opera house, arsenal, and academy of arts. The manufactures consist of woollens, cottons, silks, papers, porcelain, and jewellery.

Potsdam (44,000), on the Havel, is one of the chief stations of the army. It has a royal palace, and picturesque environs. It is the birthplace of Humboldt, the celebrated traveller and geographer. **Brandenburg** (26,000) is an industrious town, which owes its prosperity to the French refugees. **Frankfort** (40,000) is a pleasantly situated town, with three great fairs yearly, and some woollen manufactures. *Kunersdorf*, in the vicinity, was the scene of a victory over Frederick the Great, by the Austro-Russians, 1769.

4. **Pomerania**, lying along the S. shores of the Baltic, for about 200 miles, is pretty fertile, though much covered by forests. The surface is low, the climate cold and humid. It has the lower course of the Oder, near which river it is fertile, but sterile in many other places. The island of *Rugen* lies off the coast.

Stettin (75,000) is a flourishing shipping port, with corn, wool, and other exports—the birthplace of two Russian empresses, Catherine and Maria. **Swinemunde**, a fashionable watering-place, is its port.

Stralsund (26,000), on the coast opposite the island of Rugen, is a commercial town strongly fortified. **Barth** is also an active port. **Griefswald** (16,000) has a university. **Putbus**, with sea bathing, and **Bergen**, are on the island of Rugen.

5. **Silesia**, which formerly belonged to Austria, is drained by the Oder, and much covered by mountains. It is rich in coal, iron, zinc, and lead, and possesses a large amount of prosperity, combining, with rich agriculture, extensive linen manufactures, and mining industry.

Breslau (150,000) is a splendid town, with great industry and much wealth. It has more than 100 distilleries, and is a good corn and linen mart, besides having the greatest wool market in Europe. Its university was founded 1702. A little to the N. is *Lissa*, where Frederick the Great defeated the Austrians, 1756.

Glogau, on the Oder, is fortified. **Goerlitz** (40,000), on the Neisse, has cloth factories. **Neisse** has iron foundries and cloth factories.

6. **Saxony** is a rich and thickly inhabited province, which produces great quantities of wool: It is watered by the Elbe, and contains the *Brocken*, the highest of the Harz mountains. This mountain district is rich in minerals.

Magdeburg (86,000) is a beautiful city, strongly fortified, and a great railway centre. In 1631 this flourishing city was taken by the Austrian general, Tilly, when it is certain 30,000 of its inhabitants were butchered.

Hall (53,000), on the Saale, has a university, and prolific salt mines in the neighbourhood. *Lutzen* was the scene of a victory of Gustavus Adolphus, 1632, in which he was slain. Here Napoleon defeated the Allies, 1813. **Eisleben**, with manufactures of potash and tobacco, and copper and silver mines, was the birthplace of Martin Luther. **Erfurt** (30,000) has imposing fortifications, and was long the residence of Luther. **Wittenberg** (13,000) (*Elbe*) has the tombs of Luther and Melancthon, and was the birth-place of Kepler, the astronomer. **Naumburg**, on the Saale, is noted for its perfumery and millinery.

7. **Westphalia** is level in the N., and hilly in the S. In the former district heaths, morasses, and scanty forests are found. Agriculture and mining are the principal industrial pursuits; corn is much grown. The minerals include copper, lead, iron, and marble. The manufactures include linen, cotton, silk, and paper. This province has long been celebrated for its hams, cured over fires of juniper twigs, which gives them a delicious flavour.

Munster (27,000) is a well-built town, remarkable for the vagaries of John of Leyden and his followers, 1535. Here the "Treaty of Westphalia" was signed, 1648, which ended the "Thirty Years' War."

Minden, on the Weser, gave its name to a battle, 1759, in which the British defeated the French. **Hamm** is a manufacturing town and a great railway centre. **Iserlohn** is noted for copper, iron, and brass works. **Bielefeld** has linen trade.

8. The **Rhine Province** lies S. W. of Westphalia, and is intersected by the great river of which the Germans are so proud, and near the banks of which the population is chiefly congregated. In the Rhine and Moselle valleys the climate is delightful, and wine is a remunerative product;

but at a distance from these rivers some dreary land is found, with a bleak climate and a barren soil.

Cologne, or **Koln** (129,000) (*Rhine*), is interesting on account of its Gothic monuments, particularly the cathedral. The streets are narrow, and the sanitary arrangements defective. It distils a well-known aromatic liquid, called *Eau-de-Cologne*.

Coblentz (34,000) is a well-built town, with great wine trade, higher up the *Rhine*, at the confluence of the Moselle. **Ehrenbreitstein** (3,000) on the opposite side of the river, is one of the strongest fortresses in Europe. **Bonn** (20,000) (*Rhine*), long distinguished for its university, is the birth-place of Beethoven. **Dusseldorf** (69,000) (*Rhine*), is a flourishing port for a large industrial district around, including **Elberfeld** (69,000), **Barmen** (75,000), and **Crefeld** (53,000), which have extensive cotton, linen, silk, and velvet factories. **Wesel** (18,400) (*Rhine*), is a strong fortress. Here 11 Prussian officers were shot by order of Napoleon I. in 1809. At **Essen** (17,000) is the celebrated factory which produces the Krupp guns, at which 10,000 men are constantly employed. **Treves** (25,000) (*Moselle*), with an old cathedral, is a declining town in the river valley. **Aix-la-Chapelle**, or **Aachen** (76,000), close to the Belgian frontier, has been noted since the time of the Romans for its hot springs. It has trade in jewellery, cloth, needles, and glass. It was the favourite residence of Charlemagne. Its cathedral contains a large collection of relics. This city is remarkable for a treaty, 1748, which ended the War of the Austrian succession. **Düren** (9,000) (*Roer*), is an important railway centre. **Saarbruck** (10,000) (*Saar*), a railway focus, is remarkable for the first engagement in the Franco-Prussian war, 1870. **Saar-Louis** (4,000) is a fortress on the same river a little further N. **Cleves** (9,000) is in a fertile district near the Rhine.

9. **Hohenzollern*** is enclosed by Baden and Wurtemburg, near L. Constance. The Danube and Neckar cross it.

Sigmaringen is an insignificant place on the Danube.

Hechingen is a small town on the Neckar, with a college.

10. **Jahde** is a small district, bordering on the bay of the same name on the North Sea. It has the modern naval station, *Wilhelmshafen* (10,000), strongly fortified —purchased in 1854 from Oldenburg.

11. **Hessen-Nassau**, lying between the Rhine Province and Darmstadt, has an agreeable surface, consisting of hills and valleys. It produces wines, fruits, and grain.

* This principality came under the King of Prussia in 1849, who was then declared the head of the family of this name. The nomination of its prince to the Spanish throne caused the misunderstanding between France and Prussia which resulted in the deplorable war of 1870-1.

Wiesbaden (35,000) is the resort of many fashionable visitors, from June to September. It is noted for hot springs. Ems (5,009) (*Lahn*), has also mineral waters of great repute. At *Kochbrunnen* the far-famed seltzer water is procured. Homburg (7,000) is now much frequented on account of its waters. Nassau and Limburg are small towns, both on the *Lahn*.

12. **Hanover*** is bounded by the Elbe for nearly 100 miles, and traversed in the interior by the Ems and Weser. The surface is generally level, the soil in some places marshy, but fertile near the rivers. The Harz mountains are very rich in minerals, and their sides are covered with forests. Brunswick divides this country into two parts.

Hanover (89,000) (*Leine*), stands in the midst of a sandy plain, and has one of the largest theatres in Germany. It is the birth-place of Hersohel. It has very large transit trade.

Celle or Zell (*Aller*) is an active trading town. Hildesheim (21,000) has cloth factories. Emden (16,000) (*Dollart B.*), is the chief port. Luneburg (15,000) (*Ilmenau*), is in the midst of bee culture. Gottingen (13,000) (*Leine*), has a university founded by George II. Osnabruck (13,000) is well known for its coarse linens. Clausthal (10,000) has a school of mines. Harburg (8,000) (*Elbe*), is opposite Hamburg. Goslar (8,000) has a productive zinc mine.

13. **Schleswig-Holstein** consists of two duchies, taken from Denmark by Prussia and Austria, in 1864, by force of arms. They lie S. of Jutland, and, though the climate is damp and foggy, are productive districts, with fat fields and smiling homesteads. Great numbers of cattle are exported, particularly to England.

Flensburg (20,000), the capital, is a good town, with ship-building.

Gluckstadt (7,000) (*Elbe*), a free port, has active trade. Altona (74,000) (*Elbe*), has also great commerce and some ship-building. It was burned by the Swedes, 1718. Kiel (20,000) is a Prussian naval arsenal. Schleswig (12,000) (*Schlei*), gave its name to the duchy. Rensburg (12,000) (*Eyder*), is an important fortified town. Tonning (4,000) (*Eyder*), is a small port.

14. **Lauenburg** is a small duchy, recently made an appanage of the Prussian crown.

Lauenburg (*Elbe*), a small town, is the capital.

* It came into the possession of England with the House of Brunswick; was separated from it on account of the Salic law, on the accession of her Majesty, 1837; was incorporated with Prussia, 1866, after having been subdued by force of arms.

KINGDOM OF SAXONY.

Saxony lies N. of Bohemia and Bavaria, and S. of Prussian Saxony, and is traversed by the Elbe from S.W. to N.E. The Erze Gebirge mountains, rising in some places to 4,000 feet, form a barrier between this country and Bohemia. The district on the E. of the Elbe is generally hilly and picturesque; but on the W. of it the surface is much more level. On the hills the climate is severe, but very mild in the valleys. This is one of the most carefully cultivated countries in Europe; and produces good crops of rye, hemp, flax, wheat, oats, and barley. The forests cover one-fourth of the kingdom. The *minerals* consist of gold, silver, copper, iron, lead, tin, zinc, marble, etc. Its *manufactures* are very important—damasks, silks, cottons, woollens, porcelain, paints, pianos, paper. Wool is largely exported. Education is widely spread by a large number of excellent schools and colleges, with the Leipsic university at their head. Since 1835 all children from six to fourteen years of age are compelled to attend the primary schools.

Dresden (180,000) stands on a plain surrounded by beautiful ranges of hills, and has eleven gates or entrances. It has splendid public buildings, including a royal palace, a picture gallery (one of the richest in Europe), a library, academy of arts, mint, arsenal, treasury, observatory, and post-office. It is noted for china ware and articles of *vértu*. Its mechanics are ingenious in the manufacture of mathematical and musical instruments. At a battle here, in 1813, General Moreau was killed.

Leipsic(107,000), on a plain near the banks of the Elster, is the seat of a university, and the centre of the German book trade, which ranks next to that of London and Paris. It has three annual book fairs, each lasting three weeks, during which great animation prevails. The type founding is very extensive. Here occurred "The Battle of Nations," 1813, which lasted three days, and ended in the defeat of the French. **Chemnitz** (60,000) is an important manufacturing town. **Freiburg** (18,000) is the capital of the mining district, and has a mining school. **Meissen** (9,000), on the Elbe, is the seat of the china manufacture of this country.

SMALLER STATES.

Mechlenburg-Schwerin is a grand duchy on the coast of the Baltic, with, for the most part, a sandy soil, and a surface interspersed with pine forests and small lakes.

Schwerin (22,000) has a pleasant position on the brink of a lake of the same name. Rostock (31,000), a university town, is near the Baltic, and has Warnemunde (*Warnow*), its port.

Saxe-Weimar, a grand duchy, consists of more than a dozen fragments, all of which have a diversified surface, but a productive soil.

Weimar (14,000) (*Hun*) is a small town built in an antique style.

Jena (5,000) (*Saale*), with a university, was the scene of the overthrow of the Prussians by the French, 1806.

Mechlenburg-Strelitz consists of two parts, one E. and the other W. of the former duchy.

New Strelitz (7,000) is a small town of little importance.

Oldenburg is a grand duchy, made up of three parts, one nearly surrounded by Hanover and extending to the mouth of the Weser; another in Holstein; and the third in the S. of Rhenish Prussia. The surface is generally level.

Oldenburg (8,000) (*Hunte*) is a small town with little trade.

Brunswick consists of three principal districts unconnected, and some small outlying parts in the S. of Hanover. The Harz mountains cover much of the surface; the soil is fertile, and minerals are abundant.

Brunswick (58,000) (*Ocker*) is an ancient city on the railway from Hanover to Berlin, with many quaint old buildings, a cathedral, museum, and some interesting monuments. It produces excellent beer.

Wolfenbuttel (10,000) has a magnificent public library.

Saxe-Meiningen is very centrally situated to the N. of Bavaria, and *Meiningen*, the capital, is noted for its theatre. *Saxe Altenburg* lies to the W. of the kingdom of Saxony. *Altenburg* (20,000) (*Pleisse*) has a remarkably built old castle. *Eisenach* (14,000) (*Nesse*) is a well-built town in the midst of fine scenery. *Coburg* is on the N. border of Bavaria, and *Gotha* further N. near Erfurt. *Coburg* (13,000) (*Itz*) is the only town in the little duchy. *Gotha* (16,000) (*Sale*), with porcelain factories, is the capital of Coburg-Gotha. *Anhalt* lies in the midst of Prussian

Saxony. *Schwartz Rudolstadt* is one of the Thuringian states lying W. of Saxony; and *Schwartz Sondershausen* further N. in Prussian Saxony. *Waldeck* lies S. of the province of Westphalia. *Reuss* lies W. of Saxony; *Schaumburg* is surrounded by Hanover; and *Lippe Detmold* lies a few miles S. of it. The Three *Free*, or nominally free, *Towns* belonging to Germany are :—

Lubeck (40,000) (*Trave*), with *Travemund* for its port, has active trade in amber, wheat, flax, tobacco, &c. It once stood at the head of the Hanseatic League, and was then a place of great importance. Its houses are old and lofty, its cathedral and town-hall antique, and its monuments fantastic. The first meeting of the League was held here in 1260, and the last in 1630, when the society was dissolved.

Bremen (82,000) (*Weser*), enclosed by Oldenburg and Hanover, is a clean, pleasant town, where most of the German emigrants for the New World embark. The trade in cigars and tobacco is immense. Its outer harbour is near the mouth of the river at Bremerhaven (7,600), where the large vessels load and unload.

Hamburg (304,000), the great commercial mart of N. Germany, stands 70 *m.* from the mouth of the Elbe, where the Alster joins that river. In 1842 much of the city was destroyed by fire; but it has been since rebuilt in a style befitting its wealth and importance. Its merchants are wealthy, enterprising, and hospitable. Its imports are £60,000,000 per annum, and 500,000 cattle are shipped here for England. *Cuxhaven*, at the mouth of the Elbe, a much frequented watering-place, is its outward port.

Hessen or Hesse is principally N. of the river Main, and is, generally speaking, mountainous. It produces excellent wines, and has valuable coal-fields. *Hessen-Cassel*, to which some of Darmstadt belongs, is chiefly watered by the Weser.

Mainz or Mayence (54,000) has an important trade in wines, and makes the sparkling hock, so named from "Hockheim," a neighbouring village. It is as noted for its strong military position as for its commercial importance.

Giessen is a railway centre in the W. of the country, with an important university, and mines of manganese in the vicinity. Cassel (46,000) (*Fulda*) has a fair trade in linen, cloth, and porcelain. Fulda (14,000), a university town, was annexed to Prussia, 1866.

Frankfort-on-the-Main (90,000) was also overawed by Prussia in 1866. It is nominally a free city, and was the meeting place of the German Diet. It has a good position for commercial intercourse, and is the headquarters of the South German monetary transactions, including banking, etc. It has snuff and tobacco factories and two great annual fairs.

SOUTH GERMANY.

South Germany, generally speaking, lies S. of the river Main, and consists of the following:—

States.	Sq. miles.	Population.	Capital.
1 Bavaria,	27,441	4,864,421	Munich on the Isar.
2 Wurtemburg,	7,530	1,818,396	Stuttgart on the Nesenbach
3 Baden,	5,910	1,434,970	Carlsruhe on the Rhine.
4 Hesse-Darmstadt,	1,698	565,659	Darmstadt on the Darm.
5 Liechtenstein,	63	8,320	Liechtenstein.
6 Alsace-Lorraine,	6,000	1,550,000	Strasburg near the Rhine.

KINGDOM OF BAVARIA.*

Bavaria is the most important and most populous of the states of the South Germanic Confederation.

This country is divided into two parts, the eastern division containing eleven-twelfths of the whole, and the western division, on the left bank of the Rhine, called the *Palatinate*. The kingdom is sub-divided into eight circles. Nearly one-third of the country is covered with forests of pine and fir. The eastern division contains seven provinces, and is crossed by the Danube from W. to E. South of the river the country is penetrated by spurs of the Tyrolese Alps, and sprinkled with lakes. North of it the surface is well-wooded. The usual grain crops and tobacco are produced; and hops are extensively cultivated. The *minerals* include coal, iron, copper, salt, and quicksilver; but the *manufactures*, with the exception of that of beer, are as yet unimportant.

Munich (170,000) (*Isar*), being the second highest situated capital city in Europe, is much exposed to heat in summer, and cold in winter Its streets are narrow in the older parts, but spacious and regularly laid out in the modern, where there are fine public buildings, pleasure-grounds, walks, and drives. Munich is the great seat of the fine arts of South Germany, and has a university of good repute.

* The following summary of the German Empire, though a partial repetition, may be useful:—4 *Kingdoms*: Prussia, Bavaria, Wurtemburg, and Saxony; 6 *Grand Duchies*: Mecklenburg-Schwerin, Hesse, Oldenburg, Saxe-Weimar, Mecklenburg-Strelitz, Baden; 5 *Duchies*: Brunswick, Saxe-Meiningen, Anhalt, Saxe-Coburg-Gotha, Saxe-Altenburg; 7 *Principalities*: Waldeck, Lippe-Detmold, Schwartz-Rudolstadt, Schwartz-Sondershausen, Reuss-Schleiz, Schaumburg-Lippe, Reuss-Greiz; 3 *Free Towns*: Lubeck, Bremen, and Hamburg; *Reichland*, or Alsace-Lorraine—in all, 26 divisions.

Passau (13,600) is a fortress at the confluence of the Inn and Danube. Augsburg (51,000) (*Lech*) is an ancient city now much below its former greatness. It has still extensive wine trade. Nuremberg (*Nurnberg*) (83,000) is an important town, the centre of trade between N. and S. Bavaria, with manufactures of toys. Erlangen (12,000) (*Regnitz*) has a university. Bamberg (25,000) (*Maine*), an important manufacturing town, with trade in fruits, has one of the nicest cathedrals in Germany. Ratisbon (30,000) (*Danube*), an old town, was the seat of the German Diet from 1663 to 1806. Wurzburg (41,000) (*Maine*) has also a university. Spires (13,600) (*Rhine*), in the Palatinate, is a very old town. Here the term Protestant was first applied to those who signed a celebrated "protest" made to the emperor Charles V., 1530. Landau (10,000) (*Saar*) is a strong fortress, taken by Marlborough, 1704. Nordlingen (8,000) is an important place. Bayreuth (19,000) has cloth factories. Aschaffenburg (10,000) (*Maine*), an old Roman town near the largest forest in Germany. Weissenburg (6,000) (*Lauter*) was the scene of the first battle in the Franco-German war, 1870. Kaiserslautern (7,000), centrally situated, has excellent beer trade. Neustadt (10,000) is an antique town. Fürth (33,000) (*Reignitz*) is a manufacturing town.

Among the battle-fields may be mentioned, *Blenheim*, on the Danube, where Marlborough defeated the French, 1704; *Dettingen*, near Frankfort, where George II. defeated the French, 1743; *Hohenlinden*, in the S.E., where the French defeated the Austrians, 1800.

KINGDOM OF WURTEMBURG.

Wurtemburg is about 130 *m.* in length and 95 in breadth, with an elevated surface, the valleys of the Neckar and Danube being 450 feet above sea level. The Swabian Alps run across the country from S.W. to N.E., and the mountains of the Black Forest touch it on the W. border. The soil, though not very productive on the hills, is fruitful, and a good system of husbandry is followed. The *minerals* include silver, copper, iron, zinc, marble, and precious stones. Salt mines are worked. The *manufactures* consist of linens, woollens, silks, carpets, leather, and iron. There is a good deal of inland and transit trade in this country. Fruits are carefully cultivated. It consists of four circles.

Stuttgart (92,000), on a tributary of the Neckar, is situated in the midst of hills clothed with vineyards. It is the seat of an important book trade, and its library has the greatest collection of bibles in the world. Its railway station is one of the handsomest in Germany.

Heilbronn (19,000) (*Neckar*) is an industrial town, the centre of the vintage district. Tubingen (9,000) (*Neckar*) contains the national university. Ulm (26,000) (*Danube*) was the scene of the surrender of General Mack with his army of 30,000 men to Napoleon I., 1800. Esslingen (17,900) (*Neckar*) has trade in cotton and hardware. Constadt has mineral waters.

GRAND DUCHY OF BADEN.

Baden, a grand duchy, is a long narrow district N. of Switzerland, on the E. bank of the Rhine, traversed by the Black Forest, remarkable for scenery. It contains the source of the Danube. The climate is mild, and the soil fertile, producing corn, tobacco, flax, hops, and maize.

Carlsruhe (37,000), "Charles' Rest," contains the ducal palace, to which the 32 streets of which it consists converge in the form of a fan. Baden-Baden (9,000) (*Oos*), with mineral waters, is much frequented by tourists. Mannheim (40,000), the principal commercial mart of the country, is regularly built in a beautiful district. It is the head of steamboat navigation of the Rhine. Freiburg (20,000), on the forest border, has a fine cathedral and a university. Constance (10,000) (*Rhine*), pleasantly situated, is remarkable for its ecclesiastical council, 1414-18. Kehl (2,300) is a fortress opposite Strasburg. Heidelberg (18,000) (*Neckar*) is an important town with an old castle and a university. Salzbach is a village, where the French General Turrenne was killed.

Liechtenstein lies to the S. of the lake of Constance, and is enclosed by Switzerland and the Tyrol. It is a small principality of little importance.

Liechtenstein or Vadutz is a mere village on the Rhine.

Darmstadt has a level surface, except on the E., where the Odenwald hills rise to a considerable height, with good plantations on their sides. Some wine is produced.

Darmstadt (40,000) (*Darm*) consists of an old and a new town. It has a good library of 200,000 volumes.

Offenbach (20,000) (*Maine*) is a very industrious town, and a free depôt for goods during the fairs at Frankfort. Worms (12,000) (*Rhine*) is an ancient city, with statues of many distinguished Germans; a splendid wine district surrounds it.

Alsace-Lorraine, ceded by France to Germany, 1871, consists of all the territory of Alsace, with the exception of *Belfort* and the district around it. The Vosges mountains

run through the W. of this province, and almost half of Lorraine, and the Rhine forms its E. boundary. Alsace is very fertile, rich in mining and manufacturing industry.

Lorraine is usually mentioned as French and German, according as the French or German language is spoken by the inhabitants of the district. *German Lorraine*, generally speaking, lies between Metz and the Vosges mountains.

Strasburg (86,000) (*Ill*), surrounded by a wall and entered by seven gates, stands two miles from the Rhine, and is one of the strongest fortresses in Europe. It possesses one of the most magnificent Gothic cathedrals, whose spire is 474 feet high, or 112 feet higher than St. Paul's. The streets are generally narrow and the houses lofty. It has long been a place of transit trade between France and Germany —a bridge of boats here crossing the river to *Kehl* on the opposite bank. It has trade in turpentine, corn, wine, spirits, &c., and brewed until lately, one-tenth of the beer used in all France. In 1870 it was taken by the Germans after a vigorous siege of several weeks, during which it was much injured. Its university, closed in 1794, was re-opened in 1872.

Mulhouse or **Mulhausen** (53,000) (*Ill*) has become a little Manchester. It is equally distant from Basle and Belfort, and produces printed cottons, silks, lace, and muslins. **Colmar** (21,000) (*Ill*) has similar industry. **Metz** (50,000) (*Moselle*) is the largest town in German Lorraine, and one of the strongest fortresses in the world. Besides, it has lace, pin, brush, flannel, and army-clothing factories. In 1522 it was unsuccessfully besieged by Charles V. It was, until 1871, a great arsenal and artillery school for the French army. Here occurred the greatest disaster to an army ever recorded, when the large force (173,000 men) under Marshal Bazaine capitulated to the Prussians in 1870, after fruitless attempts to escape.

Woerth records the defeat of Marshal MacMahon, 6th August 1870. **Hagenau** is in the same locality. **Phalsburg** and **Bitch**, in the Vosges, fortresses, were taken after sieges, 1870. The most important battle-fields in Lorraine, in the late war, are **Forbach** (4,500), and **Gravelotte**. **Thionville** (7,000) (*Moselle*), near the Belgian frontier, is a very strong fortress.

Mountains.—Central Germany contains many mountains of considerable elevation, in which most of the rivers have their sources. The *Bohmerwald*, *Erzegebirge*, and *Riesengebirge*, are on the borders

of Bohemia; the *Thuringerwald* is further W., and the *Odenwald* continues southward to the Black Forest. On the W. of the Rhine, and running parallel to it, are the *Vosges*, rising 4,690 feet in their highest peak. They have beautiful vine-clad slopes.

The exports of N. Germany consist of grain, wool, timber, hams, hops, hemp, flax, amber, etc., and of S. Germany, toys, jewellery, chinaware, wine, beer, spirits, etc.

Rivers.—The principal drainage of Germany is carried northwards. For the Memel, Oder, Elbe, Weser, and Rhine, see page 67. Among the smaller rivers is the *Pregel*, flowing into the Frische Haff. The tributaries of the Oder on the left are the *Neiss* and *Bober;* on the right the *Warta*. The *Ems* flows into Dollart Bay. The Danube receives the *Inn*, *Isar*, *Lech*, *Iller*, and *Nab*, in S. Germany, the W. of which is drained by the Rhine.

Coast Line.—The Baltic coast line extends about 500 miles, and is monotonous and dreary, with a succession of sandhills. It is remarkable for its *haffs*, or fresh-water lakes, separated from the sea by sandhills. The *Frische* haff is named from the freshness of its waters; the *Curische* haff from an ancient tribe, the Cures, who dwelt on its banks. The bank between this haff and the sea produces quantities of amber. Near the *Stettiner* haff, or Bay of Stettin, are the well-wooded isles of *Usedom* and *Wollin*, and further W. the large island of *Rugen*, much indented by the sea, much varied in its surface, and containing many interesting remains. *Alsen*, E. of Schleswig, and *Sylt*, with others W. of it, now belong to Germany; and also five small islands off the coast of Hanover.

Lakes.—In Germany many large lakes are found. Chiem and Wurm Sees in the S.E. of Bavaria; Lake Constance is half German; Muritz, Plauen, and Schweriner Sees in Mechlenburg; Mauer, Gowentin, and Spinting lakes in E. Prussia.

Railways.—Germany is well provided with railways. A line runs from Emden, on Dollart Bay, S. through Munster to Hamm, one of the great railway centres, whence a line runs N. to Hanover and Minden. From Hanover it proceeds through Magdeburg to Berlin, thence to *Kreutz*, another great centre, from which a line goes to Bomberg, thence to Konigsberg, and E. into Russia. Along the E. bank of the Rhine a railway runs from Arnheim to Basle, in Switzerland. In short, all the German towns are connected by railways.

Industries, etc.—The principal productions have already been briefly referred to. In every state agriculture is the prevailing industry. The *manufactures* are important and increasing:—linen, in Saxony and Silesia; cotton in Rhenish Prussia and Alsace; woollens, carpets, and damasks in Pomerania and Bavaria; and wooden clocks, and carving in Saxony, Bavaria, and the Black Forest. Hanover and Saxony have iron manufactures; chinaware of excellent

quality is made in Saxony; and jewellery in all the large towns. *Minerals* are abundant.

The *climate* varies much—the Rhine on an average is frozen over 26 days, the Weser 30, the Elbe 62, and the Memel 73 days every year.

Education is, perhaps, more advanced than in any other country in Europe. Without counting those of Austria, there are twenty universities—at Berlin, Breslau, Halle, Bonne, Griefswald, Munich, Wurzburg, Erlangen, Leipsic, Tubingen, Giessen, Jena, Rostock, Kiel, Marburg, Heidelberg, and Konigsberg. There are also about 500 high, and above 40,000 national schools. In Prussia education has long been compulsory. About 150 public libraries are scattered through Germany, and 2,000 newspapers are published daily.

KINGDOM OF BELGIUM.

This kingdom is bounded N. by Holland, E. by Prussia, S. by France, and W. by the North Sea. It lies between the parallels of 49½° and 51½° north, and meridians of 2½° and 6° east longitude.

Belgium is generally flat, particularly on the N. and W., the low shores being in some places protected from the sea by sandhills, or dunes, and along the river banks by dykes; on the E. and S., where its mineral treasures are found, the surface is slightly rugged. It is drained by the Scheldt and Meuse, with the Lys and Rupel, two tributaries of the former. The soil is naturally fertile in the west and centre. The *Flemings* are most industrious, and have made their country one of the most productive in the world; the Walloons, who dwell mostly in the S. and speak a French dialect, are also prosperous. Besides good pasturage, Belgium produces good crops of wheat, rye, oats, barley, flax, etc. This country was separated from Holland in 1831.

Provinces.	Sq. miles.	Population.	Capital.
1 W. Flanders,	1,248	631,854	Bruges, on a Canal.
2 E. Flanders,	1,157	787,070	Ghent, on the Scheldt.
3 Hainault,	1,436	789,844	Mons, on the Trouille.
4 S. Brabant,	1,267	772,778	Brussels, on the Senne.
5 Antwerp,	1,093	445,700	Antwerp, on the Scheldt.
6 Liege,	1,116	514,894	Liege, on the Meuse.
7 Namur,	1,413	290,980	Namur, on the Meuse.
8 Limburg,	931	193,160	Hasselt, on the Demer.
9 Luxemburg,	1,705	196,854	Arlon, on the Sernoy.

1. **West Flanders** is not so fertile as East Flanders, but produces fine flax and much tobacco; has many dairies, and splendid draught horses. The summer is warm and rainy.

Bruges (50,000), a walled town, on the canal from Ghent to Ostend, was once the most wealthy town of the Hanse League; it is now much decayed. Six canals meet here, and it is the second most important railway centre of Belgium.

Ostend (17,000) (*N. Sea*), the packet station for England, a fashionable watering-place, has a good fishery of herrings, cod, and oysters; was besieged by the Spaniards, 1601-4. Courtray (25,000) (*Lys*), has great bleaching works, and is famed for its damask table linen. It has an academy, museum, and a library. Ypres (17,000) is a quaint old town, with the same industry in linen: hence diaper (d'Ypres). It has the tomb of Jansen, once its bishop. Its cloth-hall is an exquisite example of secular Gothic architecture. Nieuport (3,400) (*N. Sea*), with a herring fishery, is a small port.

2. **East Flanders**, a highly-cultivated and fertile province, is the most thickly peopled district of Europe.

Ghent (122,000), on 26 islands in the Scheldt, has spacious squares and busy streets, manufactures of cotton, linen, and silk. It is the birthplace of "John of Gaunt," and of the Emperor Charles V. In 1814, a peace was made here between Great Britain and the United States. The "Pacification of Ghent," in 1576, led to the union of the provinces and the overthrow of the Spaniards.

Alost (20,000) (*Dender*), is a cloth and hop mart, also makes linen fabrics. Lokeren (18,000) (*Scheldt*) makes good linen, and has the largest bleach-green in Belgium. Dendermonde (9,000) (*Scheldt*), a linen seat, was taken by Marlborough, 1706. Oudenarde (6,000) (*Scheldt*) is the place where Marlborough gained a victory over the French, 1708. Grammont (*Dender*) is a small place.

3. **Hainault**, drained by the *Haine* and *Sambre*, is level on the N. and W., and rugged on S. and E.

Mons (30,000) (*Trouille*) is a strong fortress in the midst of coal mines. In 1691 it was besieged by Louis XIV., and it was taken by the French in 1792 and 1794. Near is a celebrated black marble quarry.

Tournay (35,000) (*Scheldt*), strongly fortified, is the chief seat of the carpet trade, and produces elegant porcelain. Its cathedral is the largest in Belgium. Charleroi (8,000) (*Sambre*), an iron and coal seat, was taken six times by the French. Ath (10,000) (*Dender*), has trade in flax. Fontenoy is the place where the English were defeated by the French, 1745. Jemappes (5,000) (*Haine*) was the scene of a

defeat of the Austrians by the French, 1792. Fleurus was the scene of three battles—the Spaniards against the German Protestants, 1622; a victory of the French over the Imperialists, 1690; and over the Allies, 1794. Seneffe is also a battle-field—1792.

4. South Brabant is a highly cultivated plain.

Brussels (315,000) (*Senne*), the capital of Belgium, is a beautifully built city. Its clean streets, mansions, palaces, museum, town-hall, parliament houses, botanic garden, etc., are most charming. It has extensive trade, a university, great printing business, and splendid public buildings. It is a Paris in miniature.

Louvain (32,000) (*Dyle*) has brass foundries and a university. Its beer is widely known. Lacken is the residence of the court. Waterloo stands 10 miles S. of Brussels. Here Napoleon I. was defeated by Wellington, 18th June, 1815. Quatre Bras, 10 miles S. of Waterloo, where, 16th June, 1815, Wellington repulsed an attack of Marshal Ney. Ramillies (*Gette*) was the scene of a great victory gained by Marlborough over the French, 1706. Vilvorde (7,000) (*Senne*) is noted for its prison or penitentiary.

5. Antwerp* is fertile towards the west, but sterile towards the east, where the soil is sandy and peaty.

Antwerp (125,000) (*Scheldt*), 60 miles from the sea, is the commercial capital, and contains many churches, richly embellished. With extensive foreign trade, it combines manufactures of cloths, silks, muslins, tapestry, velvet, and ship-building, but has narrow streets and a very antique appearance. It was captured by the Spaniards in 1576 and 1585, when a brutal soldiery, maddened by the non-payment of long-deferred arrears, committed the wildest excesses.

Mechlin or Malines (36,000) (*Dyle*) is the centre of the lace-making, the seat of the Belgian primate, and the centre of the railway system. Turnhout (14,000) is an important manufacturing town.

6. Liege has the chief iron works along the banks of the Meuse. Though the climate is often hazy and damp, good wheat is grown. There are some moorlands.

Liege (106,000) (*Meuse*), the "Birmingham of Belgium," with numerous cannon foundries, zinc, vitriol, and glass works, has coal, lead, iron, and alum mines, slate and marble quarries in its vicinity. Fire-arms and nails are made extensively. It has an active, hardy, and industrious population.

Verviers (34,000) has factories of fine cloth and steam-engines. Huy (*we*) (11,000) (*Meuse*), where Peter the Hermit was buried, has paper mills and iron foundries. It is strongly fortified. Spa (6,000) and Herstal have mineral waters. Moresnet has zinc mines.

* French, *Anvers*; German, *Antwerpen*.

7. **Namur** is a diversified district, watered by the Meuse. It is rich in minerals. The air, though keen, is agreeable.

Namur (26,600) (*Meuse* and *Sambre*) is the seat of the cutlery, glass, and hardware trade, and has coal, iron, and lead mines, with marble quarries in its vicinity. It is a very strong fortress, but was taken by Louis XIV., 1692, and by William III., 1695.

Dinant (7,000) (*Meuse*), a small town, amid beautiful scenery, has marble quarries, and a citadel perched on a rock. Philippeville is a small fortress.

8. **Limburg** is much employed in bee culture and cattle-rearing. The surface is level.

Hasselt (10,000) has distilleries, linen, lace, and tobacco factories. St. Trond (12,000) is a very ancient city.

9. **Luxemburg** has extensive forests and a moist but temperate climate. The surface is beautiful and picturesque.

Arlon (6,000) carries on trade in corn, woollen stuffs, and leather.

Mountains.—All the northern provinces are flat; but the four southern provinces are much traversed by branches of the Ardennes.

Rivers.—Along the rivers' banks, in the N. and W., are dykes which prevent inundations. The Scheldt enters from France, and receives the *Lys*, *Dender*, and *Rupel*; the Meuse or *Maas*, on the E., receives the *Sambre* and the *Ourthe*.

Coast Line.—The only harbour is Ostend, which is artificial. The principal port of the kingdom is Antwerp, which has the free navigation of the Scheldt secured to it by treaty.

Minerals.—In the S.E. abundance of coal, iron, copper, lead, and zinc is found. The coal and iron are found in proximity, and therefore contribute to render the country highly manufacturing. The following are the chief seats of the industries: *Iron*, Liege, Namur, Charleroi; *coal*, Mons and Charleroi; *hardware*, Liege; *fine cloth*, Verviers; *cutlery*, Namur; *linen*, Derdermonde, Courtray; *lace*, Mechlin; *carpets*, Tournay.

Railways.—Belgium is a network of railways; several enter it from France, and also from Holland and Germany. The railways are chiefly worked by the State.

Education.—Belgium has four universities—Brussels, Louvain, Ghent, and Liege. The State exercises a superintendence over all schools. On the whole, the primary schools are well conducted. About 180 daily papers are published in the kingdom.

THE NETHERLANDS.

Holland, or the Netherlands, lies N. of Belgium and W. of Prussia, being washed on the N. and W. by the North Sea, where a number of islands fringe the coast line. It lies between the parallels of 50° 46′ and 53° 34′ N. latitude, and the meridians of 3° 24′ and 7° 12′ E. longitude.

It includes part of the duchy of Limburg, and the King of Holland is also sovereign of the Duchy of Luxemburg. Holland and Belgium, formerly one kingdom, were separated in 1831. Holland is 160 miles long and about 120 broad.

Provinces.	Sq. miles.	Population	Capital.
1 South Holland,	1,176	681,321	The Hague, near the N. Sea.
2 North Holland,	966	578,915	Amsterdam, on Amstel and Y.
3 Utrecht,	531	174,562	Utrecht, on the Rhine.
4 Limberg,	854	225,326	Maastricht, on the Naas.
5 Zeeland,	642	179,001	Middleburg, on Walcheren isle
6 Groningen,	907	229,018	Groningen, on the Hunse.
7 Friesland,	1,267	295,946	Leeuwarden.
8 Oberyssel,	1,308	256,449	Deventer, on the Yssel.
9 Drenthe,	1,029	106,532	Assen, on a Canal.
10 Guelderland,	1,972	434,093	Arnhem, on the Rhine.
11 North Brabant,	1,985	431,253	Bois-le-duc, on the Naas.
12 Luxemburg,	990	199,958	Luxemburg, on the Alzet.

Of the above provinces, five border on the Zuyder Zee, and four others are also maritime. The surface of the whole country is perfectly level, and the sea is only kept out by embankments, which must be looked after very carefully, and are only maintained at great expense. On the whole, the climate is humid.

1. **South Holland** contains the districts around the mouths of the Rhine and Maas, which are very productive. This province contains much industry and enterprise, and is traversed by good roads, canals, and railways. To it belong the islands of *Voorne*, *Over-Flakkee*, and *Beyerland*.

The **Hague*** (95,000), the political capital of the kingdom, is a beautiful town, on several canals, in a very pleasing country. It is the birth-place of William III. of England and Huyghens the mathematician, and has a splendid collection of paintings.

Rotterdam (125,000) (*Maas*), the birthplace of Erasmus, is an excellent commercial town, with exports of gin, butter, etc. Its cathedral, exchange, town-hall, and palace of justice are the chief buildings. **Dort** or **Dordrecht** (26,000), on an island in the Maas, formed by an inundation in 1421, was the seat of the first parliament of the States-General, 1572, after achieving their independence. Here immense timber rafts, which float down the Rhine from the Swiss and German forests, are broken up and stored. **Schiedam** (20,000) (*Schie*) is one of the chief seats for the manufacture of Holland gin. **Delft** (23,000) is an old town, once famous for pottery. It has a pompous monument to William the Silent. **Leyden** (40,000) (*Old Rhine*), near its mouth, is famous for its cloth, gin, and cheese manufactures, and university. In 1574 it suffered fearfully from a siege by the Spaniards, no bread having been seen for seven weeks, until the overflow of the waters compelled the besiegers to retire. **Briel** (3,000) (*Maas*), a seaport, was given up to England, as a security, in the War of Independence, by the Dutch patriots. **Gouda** (18,000) (*Yssel*) exports much cheese, and is an active town. **Ryswick** is noted for a treaty between England, Holland, and France, 1697. **Hellevoetsluys** is a port on the isle of Voorne.

2. **North Holland** is a peninsula, between the North Sea and the Zuyder Zee, and includes the islands of *Texel*, *Vlieland* and *Ter-Schelling*, at the mouth of the latter. The north shore is defended by the great De Helder dyke, formed of granite, with immense buttresses. Sandhills run along the W. shore, but marshy ponds are found in the interior.

Amsterdam (282,000), the "dam of the Amstel," is the commercial capital of the kingdom; stands on a morass, into which piles of wood were driven for its foundation. By canals running in every direction and the river, 95 isles, or blocks, are formed, which are united by bridges. The stadt-house, or king's residence when he visits the city, rests on 13,659 piles as a foundation. The exchange, town-hall, churches of St. Nicholas and St. Catherine, are the chief buildings. As a port, this city has an immense trade with the East Indies, London, and the Baltic. The North Sea Canal, a prodigious engineering triumph, has lately been opened to ships. About 8,000 persons are engaged at diamond cutting; and its manufactures of velvet, gin, linen, metal, and silk, are important.

* In full, S'Gravenhaag, *i.e.*, the haag (lodge) of the grave (count).

Haarlem (33,000) has bleach works and nurseries, and trade in flower seeds. In its principal church, St. Bavons, there is a powerful organ with 5,000 pipes. In 1573 it was taken by the Spaniards after a seven months' siege. Saardam or Zaandam, a village where Peter the Great worked as a ship carpenter, has a great number of windmills. Alkmaar (10,000) (*Ship Canal*), is a great cheese and butter mart. Helder (12,000) at the mouth of the canal, is a fortified port. Hoorn, in the E. of the peninsula, was the birthplace of the navigator Schouten, who first sailed round Cape Horn; and also of Tasman, the navigator, who gave his name to Tasmania. Camperdown was the place where Sir J. Jervis defeated the Dutch fleet, 1797.

3. **Utrecht**, the smallest province, touches the Zuyder Zee on the S., is a little more elevated than the surrounding districts, and is devoted to tillage and pasture.

Utrecht (63,000) (*Rhine*) is in a well-wooded district. It has a university, a mint, and velvet and cloth factories. Here was concluded, in 1713, a treaty which gave peace to Europe.

Amersfort (12,000) was the birthplace of the patriot Barneveldt, who, owing to the enmity of Prince Maurice, was beheaded at the Hague, 1618, at the age of seventy-two. It has trade in gin.

4. **Limburg**, traversed from S. to N. by the Maas, is a narrow province between Brabant and Prussia; it is also a German duchy.

Maastricht (29,000) (*Maas*) is a very strong place, with renowned tan-yards. It was taken and ravaged by the Spaniards in 1576.

Ruremonde (8,000) (*Meuse*) is a strong place.

5. **Zeeland** (sea-land) is almost entirely composed of islands, the high tides rising much above the surface. The mouth of the Scheldt here forms a wide channel. The chief islands are: *Schouwen, Beveland N. and S.*, and *Walcheren*.

Middleburg (20,000), where the telescope was invented, is in the isle of *Walcheren*, which is memorable for the disastrous expedition of British troops under Chatham, 1809.

Flushing, on the same island, has lately been much improved. It is only 100 *m.* from Dover, and commands the mouth of the Scheldt —the birthplace of De Ruyter—bombarded by the English, 1809.

6. **Groningen**, with excellent arable land, has a surface marshy in some places, and sprinkled with lakes in the N.E. It has a large number of horses and cattle, and includes three islands.

Groningen (38,000) communicates with the sea by means of a navigable canal. It has a university, a museum, and a library.

7. **Friesland** is very similar in character to Groningen, but has many more lakes. It includes the isle of Ameland.

Leeuwarden (30,000) (*Ee*) is a great canal centre.

8. **Oberyssel** extends from the Zuyder Zee to the Prussian frontier.

Deventer (14,000) is a very strong town on the river to which this province owes its name.

Zwolle (18,000) is a railway centre with considerable trade.

9. **Drenthe** is the least important and least peopled of the provinces. It has some peat bogs, lakes, and marshes.

Assen is a small town, with very little trade.

10. **Guelderland** lies S.E. of the Zuyder Zee, is bounded on the S. by the Maas, and traversed by the Rhine. Much of it is studded with parks and gardens.

Arnheim (35,000) (*Rhine*), stands near the Prussian frontier, and has a good trade. Here Sir Philip Sidney died of his wounds.

Nymeguen (24,000) (*Waal*), is strongly fortified. Here a treaty was concluded in 1678 between England, France, and Holland. Zutphen (10,000) (*Yssel*), is the place where the gallant Sir Philip Sidney fell, 1586.

11. **North Brabant** is the largest province in the kingdom, and is chiefly watered by the Maas. It borders on Belgium and contains many strong fortresses.

Bois-le-Duc (26,000), "the Duke's wood," is a fortified town, with trade in linen and musical instruments.

Breda (16,000) (*Dintel*), with an arsenal and a military academy, is strongly fortified. Here Charles II. and James II. long resided in exile. A treaty of peace was made here, 1667, which concluded the second Dutch war. Bergen-op-Zoom (11,000) (*E. Scheldt*), a very strong fortress, was in 1813 unsuccessfully besieged by the British.

12. **Luxemburg** is in the S.E. of Belgium, consists of a hilly surface, much covered with forests, and drained by the Maas and its tributaries. It also belongs to Germany, and is a grand duchy.

Luxemburg (14,000) (*Alzet*), is a very strong fortress, with fortifications cut out of the solid rock. It is garrisoned by Germans.

Rivers.—The *Rhine*, *Maas*, and *Scheldt* are the chief rivers.

Industries.—The Dutch are a clean, industrious people, who take much pride in their dairies. In the N. wheat, flax, and madder are raised; in the S. tobacco and fruit trees cover the land. Great quantities of cheese are exported, and a kind of drink extensively used in England called gin. Horticulture is a very favourite pursuit; cottons, woollens, linens, and damasks are manufactured, and sugar-refining carried on extensively. The commerce, particularly with the East Indies, is very important, and ship, barge, and boat-building is an important industry. The fisheries are exceedingly valuable.

Railways.—A great number of canals cross the country everywhere, which relieve the rivers of surplus waters: railways are numerous. The chief centres are at Utrecht, Zwolle, and Leeuwarden.

Education.—There are three universities—at Leyden, Utrecht, and Groningen; and a military academy at Breda. The public schools are well supported and flourishing. The government is a constitutional monarchy. One-eighth of the population is at school.

Colonies.—The colonial possessions are numerous and important; in *America*, Guiana, St. Eustatius, Curaçao, St. Martin, Bonaire, and Saba; in the *East Indies*, Java and Madura, Sumatra, Borneo, Banca, Celebes, Timor, and the Moluccas. Total population, 25 millions.

KINGDOM OF DENMARK.

The kingdom of Denmark consists of the peninsula of Jutland, the islands of Funen, Zealand, Laaland, Bornholm, and Falster, with several smaller islands in the Cattegat, together with the Faroe isles and Greenland. Indeed more than one-half of the whole is insular.

It is situated between the parallels of 54° 35′ and 57° 41′ N. latitude, and between 8° 4′ and 12° 37′ E. longitude.

The Cattegat communicates with the Baltic by three passages—the Sound, the Great Belt, and the Little Belt. The climate of Denmark, though mild, is foggy and humid. The soil is not generally fertile, and more than one-half of the population lives by agriculture. The products are rye, oats, barley, beans, peas, etc. The manufactures are for home use, but the fisheries are very important and valuable.

The following are the principal divisions :—

Divisions.	Sq. Miles.	Population.	Chief Town.
1. Zealand, Moen, and Samso, -	2,849	608,090	Copenhagen.
2. Funen, Langland, and Arro, -	1,286	230,455	Odensee.
3. Laaland, Falster, etc., - -	648	91,645	Mariboe.
4. Jutland, - - - -	9,791	755,996	Aarhuus.

Zealand is of an irregular form, with two good bays on the E., and an undulating surface of no great elevation in the interior.

Funen has a coast a little more indented.

Samso is a much smaller isle N. of Funen.

Moen lies S. E. of Zealand, and is hilly. *Falster* and *Laatand* lie S. of Zealand.

Bornholm is about twenty miles long and eleven broad, and exports building-stone, marble, and coal to Copenhagen.

Jutland, ending in the Skaw, is a cold country with a poor soil—the surface covered with lakes, and penetrated on the E. by the *Lym-fiord*, which almost crosses the whole peninsula.

Copenhagen (194,000) stands on the Sound, on the island of Zealand, and has greatly improved within the last few years. It is a beautiful city, with a university, museum of northern antiquities, exchange, etc. Its trade is pretty extensive. Here, in 1801, the British fleet, under Nelson, almost destroyed the Danish fleet. Here also, in 1807, Lord Cathcart took the Danish fleet and brought it to England.

Elsinore (9,000), on the same island, is the port of embarkation for Sweden, on the narrowest part of the Sound. It was the scene of "Hamlet." Aalburg (10,000), on the Lymfiord, sometimes ranks as the capital of Jutland, and has trade in grain and herrings. Aarhuus (11,000) is a much more improving place, with increasing commerce in cattle and grain. Odensee (17,000), on Funen, is an old town, with glove and coarse woollen factories, and a good cathedral. Randers (7,000), in Jutland, has trade in gloves and horses.

Ronne, the capital of Bornholm, has trade in fish and wooden clocks. Roeskilde, on Zealand, has a cathedral, and was once the capital of Denmark.

Mountains and Minerals.—There is no mountain in Denmark, and the minerals are unimportant.

Education.—The Danes are among the best educated people in Europe.

Railways.—A railway runs from Copenhagen across the island, centrally, to the Great Belt, and is continued from Nyborg, past Odense, across Funen, to the Little Belt, opposite Fredericia, on the mainland, whence a railway proceeds S. to Hamburg.

Colonies.—The Faröe isles lie between Denmark and Iceland, about mid-way. They produce fish and cattle, and the well-known eider-down; a coalfield is now worked. They are thirty-five in number, of which seventeen are inhabited. They yield a little barley and oats.

Stromsoe is the only town worth the name. These isles send a representative to Copenhagen.

Iceland, that is, "land of ice," is on the boundary between the Atlantic and Arctic oceans. Though cold and barren, it is interesting on account of its burning mountain, fisheries, and boiling springs, called *geysers*, which throw jets of boiling water to a great height. The coasts are indented by numerous gulfs. Potatoes are the chief crop. Many good pastures exist, and fish are abundant.

Reykjavik (4,000), the capital, is a small town on the S.W., with trade in fish, a library, lyceum, and two newspapers. Skalwit is near Mount Hekla, and *Holar* on the N. coast. The population of the isle is only 70,000, who speak a dialect of the Norwegian language.

Denmark also possesses the islands of Greenland, St. Thomas, Santa Cruz, and St. John, and some of the Nicobar isles.

SWEDEN AND NORWAY.

Sweden and Norway* form one kingdom but under two parliaments, and embrace the whole of the Scandinavian peninsula.

Sweden has generally a flat surface, sloping towards the

* In Sweden, Norway, and Lapland, the people are so given to snuff that they use little spoons to shovel it up their nostrils. The legislative assembly in Sweden is called *Rigsdag*, and in Norway *Storthing*.

Baltic. Four-fifths of its inhabitants are engaged in agriculture; and one-tenth of the surface of the country is covered with lakes. In the S. and centre forests of pine, fir, and birch, which besides supplying abundance of fuel, pitch and tar, give large timber exports.

Sweden is usually divided into three parts, which are subdivided into twenty-four lans or prefectures.

Divisions.	Sq. Miles.	Population.	Capitals.
Sweden Proper, - -	32,658	1,225,838	Stockholm, on L. Malar.
Gothland, - - -	37,924	2,456,430	Gothenburg, on the Gotha.
Norrland and Lapland*,	100,039	513,413	Gefle, on G. of Bothnia.

Stockholm (150,000) is situated between L. Malar and the Baltic, and is defended by the strong fortress of *Waxholm*. The site of the city is very remarkable, consisting of seven islands and two promontories united by bridges, and "cradled on the waters of Lake Malar." The old part of the town has narrow, winding streets. The waters are crowded with boats and small steamers for convenience of trade. The suburbs, which contain a splendid park, are very beautiful.

Upsala (12,000), the old capital, is about 44 miles to the N. It has an observatory, and a university, in which the celebrated naturalist, Linnæus, was a professor. **Fahlun** is a mining and copper-smelting town further north. **Orebro** (8,000), on L. Hielmar, is an active little town.

Gothenburg (60,000), on the Gotha, is the chief commercial place of the kingdom. It has great intercourse with Hull, and exports iron, alum, timber, etc. **Carlscrona** (16,000) is the ordinary station of the Swedish navy. **Kalmar** (8,000), with a cathedral and a castle, is best known for its treaty in 1397, when Margaret of Valdemar, "the Semiramis of the North," became Queen of Norway, Sweden, and Denmark. **Jonkoping**, at the S. of L. Wettern, has an arsenal and an arms factory. **Norrkoping** (26,000) has docks, ship-building, and manufactures of firearms, paper, etc. **Gefle** (8,000) is an active port on the G. of Bothnia; as soon as the navigation opens in summer, exporting iron, timber, pitch, and tar. **Haparanda**, at the head of the gulf, opposite the Russian town, Tornea, is an active port. **Sundwall**, **Hernosand**, **Umea**, and **Pitea** are very small places.

* The mosquitoes, insects larger than a gnat, are a great nuisance in Lapland.

Malmo (30,000), a thrifty town, with factories of woollens and carpets, has steam communication with Lubeck and Copenhagen. **Lund** (5,000) is a very ancient cathedral city, with a university, a museum, and an observatory. **Wisby** (10,000), on the island of Gothland, is a place once important, but now in ruins. **Dannemora** (5,000) is the seat of the best iron mines, from which much of the Sheffield steel is manufactured. **Westeras** (3,000) has a college.

The following places in Swedish Lapland are sometimes visited by tourists :—

Lulea* (2,000) a pretty large town, has neither prisoner, policeman, magistrate, nor soldier; and the people on going from home hang the key of their door outside, to show all comers they are not within. **Jockmock** is within the Arctic Circle and has 300 or 400 people. **Quickjock**, further N., 200 miles from Lulea, is about the same size, and is sometimes visited by travellers, as a place of interest.

NORWAY.†

Norway, comprehending the western portion of the peninsula, extends about 1,100 miles from N. to S., with a breadth varying from 10 to 250 miles, being washed by the Atlantic Ocean, the N. Sea, and the Skager Rack.

It extends from 57½° to 71° N. latitude, and from 5° to 28° E. longitude, with a surface, for the most part, covered with mountains, which in the S. constitute a series of table-lands, with narrow belts of lowland in some places along the coast. Norway is divided into six stifts, which are subdivided into seventeen provinces or amts.

Stift.	Sq. Miles.	Population.	Capital.
Christiania,	10,347	448,475	Christiania.
Christiansand,	15,628	328,583	Christiansand.
Bergen,	12,552	227,853	Bergen.
Hamar,	20,796	245,354	Lessoe.
Trondhjem,	22,032	295,877	Trondhjem.
Tromsoe,	41,932	155,336	Hammerfest.

* *A* in Swedish names is pronounced *o*, as Aland, Tornea, *pron.* Oland, Torneo.

† The parliament is called the "*Storthing*," and each member is paid about 13*s* a day, with travelling expenses to and from Christiania.

Christiania (66,000), the capital of Norway, has broad and well-paved streets, in the midst of heights covered with wine plantations. It has a university, observatory, and a public library, and manufactures of paper and hardware, with great trade in timber and fish.

Frederickshald (7,000) has trade in timber and grain. Near it is the strong fortress of *Frederickstein*, where, in 1718, Charles XII. was killed. **Drammen** (10,000) has trade in timber and pitch. **Laurvig** (3,000), with a cannon foundry, has trade in snuff and malt. **Christiansand** (10,000), with a good harbour, is fortified; and exports lobsters to London. It has active ship-building. **Stavanger** (18,000) is a very old town with a cathedral. It exports timber and salt fish. **Bergen** (26,000) is the commercial capital of the kingdom, and is the great fish-depôt. It has a very active industry in exporting fish, timber, iron, lobsters, and skins. **Trondhjem** or **Drontheim** (20,000), the ancient capital of the country, has a grand old cathedral in which the kings of Sweden are still crowned as kings of Norway. It exports timber, fish, and copper from the mines of *Roraas*, in the neighbourhood. **Hammerfest** (800) is the most northerly town in Europe. It exports fish, oil, copper, etc. **Tromsoe** (1,300) is the most important place in Finmark.

Mountains.—The great mountain-chain which forms the water-shed of the Scandinavian peninsula has already been described.

Rivers.—The largest is the *Glommen*, which runs S. through Norway, and flows into the Skager Rack. The *Gotha* flows from L. Wenern to the Cattegat. Several streams run parallel to each other, with a precipitous course towards the Gulf of Bothnia; among which may be named the *Tornea*, *Lulea*, *Pitea*, *Umea*, and the *Dal*, with dozens of less importance. The *Tornea* forms, for a considerable distance, the boundary between Sweden and Russia. The *Lulea* and *Pitea* have for their ports the towns of the same names. The *Umea* is joined by the *Windel*, near its mouth. The *Dal* enters the Baltic N. of Hall Ness. On the W. of Norway there is no important river. The *Tana*, which separates, for much of its course, Norway from Russia, flows into the Arctic ocean.

Lakes.—Commencing at the north, there is, in Sweden, *Tornea* and *Lulea*, near the sources of the rivers of the same names; *Siljan* near Fahlun; and the three large lakes further south, already described. In Norway the lakes are small.

Coast Line.—The coast line of Sweden is, generally speaking, regular, with only a few small islands near it. *Oland*, 85 miles long, separated from the mainland by Calmar Sound, is long and narrow, with a level surface. *Borgholm* is the capital. *Gothland* is a larger island. The inlets on this coast are always at the mouths of rivers

and usually small. The coast of Norway, on the other hand, is much broken up and deeply indented with arms of the sea called *fiords*, and numbers of islands lie adjacent to the shore. *Christiania* fiord in the S., *Bukke* and *Hardanger* in the S.W., *Sogne*, *Trondhjem*, *Vest* (at the Loffoden isles), are the most important on the W. *Porsanger* and *Veranger* fiords are in the extreme N. The *Loffoden* isles are the most important. S. of the principal isle is the celebrated *Maelstrom*, or whirlpool, formed by conflicting currents, and dangerous to mariners. These isles are rocky and mountainous, partaking of the physical character of the neighbouring mainland—some of the mountains in Vaagen rising to 4,000 feet. The islanders are chiefly engaged in fishing.

Climate.—In Norway the climate is colder than in Sweden. Generally speaking, the winter is long and rigorous, the summer short, with scarcely any spring or autumn.

Minerals are abundant in both countries. Rich mines of copper, iron of the best quality, alum, vitriol, lead, sulphur, and zinc are found in many provinces. The iron of Dannemora is shipped for England at *Orebro*, on lake Hielmar, hence called "Orebro iron." In Norway the copper mines of Roraas and other places are very productive.

Industries.—After agriculture, mining is the next important industry. Fishing, chiefly salmon and herring, gives employment to many; timber is exported in great quantities; and ship-building is carried on with zeal in many of the ports.

Education is very generally diffused, and stationary and ambulatory schools provided through the country. Universities are at Upsala and Lund in Sweden, and at Christiania in Norway.

Railways.—From Stockholm a line runs N. to Upsala, and W. to Porla, thence S. to Falkoping, thence to Gothenburg. From Falkoping a line runs S.E. to Jonkoping, thence S. to Malmo. In Norway, Christiania is connected with Drammen and also with Eidsvold, by railways. Trondhjem is connected with Storen (35 miles) by rail.

Colonies.—In the W. Indies, the isle of St. Bartholomew.

THE RUSSIAN EMPIRE.

The Russian empire, until lately the most extensive in the world, we shall consider under two heads. (*a*) Russia in Europe, the extent of which has been already given, and its eastern boundary given in the eastern boundary of

Europe. (*b*) Siberia, or Asiatic Russia. This immense empire has an extent of 6,000 miles from east to west, and 1,500 from north to south, with an area of 7,343,000 square miles, being one-seventh of the land on the earth's surface, and ranking next to the British empire in extent.

Russia in Europe is bounded, N., Arctic Ocean; W. Norwegian and Swedish Lapland, the Baltic, Prussia, and Austria; S., Turkey, Black Sea, Sea of Azov, and the Caucasian Mountains; E., Caspian Sea, Ural River, and the Ural Mountains. Its length from the Arctic Ocean to the south of the Crimea is 1,700 miles; breadth from the Baltic to Ural Mountains, 1,500 miles, and contains an area of 2,000,000 of square miles, being more than half of the continent of Europe.

This is the flattest country in Europe; the only elevation is the *Valdai hills*, forming the watershed of the principal rivers, which, in general, have a very slow movement, with a very slight fall in their course to the sea. Vast tracts of forest cover the country in all directions, and by their immense supply of fir, pine, and other timber, constitute one great source of the national wealth. High plains called *steppes*, of great length, run along the southern and northern margins of the country, but are generally barren, sandy wastes, here and there dotted with salt marshes, and a stunted growth of dwarf birch like brushwood. The largest forest in Europe is that of *Volkonskoi*, which is around the source of the Volga. We may conveniently consider the physical aspect of this vast empire by characterising it under three great regions: *Northern*, *Middle*, and *Southern*. In the *Northern Region*, the country, except on its southern border, is too bleak for tillage, and its inhabitants live by hunting and fishing, the soil being for nine months in the year covered with hard frozen snow. The summer is short, and the sun is seen for nearly two months above the horizon in the most northern latitudes, though the rays are little effective owing to his small elevation above the horizon. The *Middle Region*, south of St. Petersburg, abounds in forests, marshes, very good pasturage, and a productive soil; pine trees towards the north; beech, oak, poplars, elms, and maple, more south. It is in this district that the enormous quantity of wheat which Russia exports is chiefly produced; the soil requiring no manure, the cultivation is simple and inexpensive. The *Southern Region* embraces the steppes already mentioned, over which immense herds of cattle range in a

semi-wild state. Camels and sheep are also kept here. Near the banks of the great rivers the soil is fertile.

Russia in Europe is divided into nine districts, which are subdivided into governments, as follows:

I. BALTIC PROVINCES.—Four Governments.

Government.	Sq. Miles.	Population.	Capital.
1 St. Petersburg,	24,305	1,174,174	St. Petersburg on the Neva
2 Esthonia,	7,625	313,119	Revel on the G. of Finland.
3 Livonia,	18,775	925,275	Riga on mouth of Dwina.
4 Courland,	10,532	573,855	Mittau.

II. GREAT RUSSIA.—Nineteen Governments.

1 Moscow,	12,793	1,580,405	Moscow on the Moskva.
2 Smolensk,	21,647	1,137,211	Smolensk on the Dnieper.
3 Pleskow or Pskov	17,353	718,907	Pskov.
4 Tver,	24,730	1,518,077	Tver on the Volga.
5 Novgorod,	45,479	1,006,294	Novgorod on the Volkhov.
6 Olenetz,	57,774	296,595	Petrozavodsk.
7 Archangel,	296,067	284,236	Archangel on N. Dwina.
8 Vologda,	153,106	974,689	Vologda on the Suchona.
9 Jaroslavl,	13,233	969,645	Jaroslavl on the Mologa.
10 Kostroma,	30,853	1,073,971	Kostroma on the Volga.
11 Vladimir,	18,297	1,221,720	Vladimir on the Yusma.
12 Nijni Novgorod,	19,632	1,285,000	Nijni Novgorod (Volga).
13 Tambov,	25,559	1,974,584	Tambov on the Tsna.
14 Riazan,	16,216	1,418,177	Riazan on the Moskva.
15 Tula,	11,846	1,152,517	Tula on the Don.
16 Kaluga,	11,922	1,000,071	Kaluga on the Ugra.
17 Orel, or Orlov	18,266	1,530,900	Orel on the Oka.
18 Kursk, or Koursk	17,423	1,826,949	Kursk on the Oka.
19 Voronetz,	25,618	1,938,116	Voronetz on the Don.

III. FINLAND.—Eight Governments.

Finland,	147,415	1,840,957	Helsingfors on the Baltic.

IV. LITTLE RUSSIA.—Four Governments.

1 Kiev,	19,656	2,012,096	Kiev on the Dnieper.
2 Tchernigov,	20,232	1,487,371	Tchernigov.
3 Poltava,	19,196	1,911,444	Poltava.
4 Kharkov,	21,021	1,590,930	Kharkov on the Donetz.

V. WEST RUSSIA.—Eight Governments.

1	Wilna,	16,323	811,979	Wilna on the Wilna.
2	Grodno,	14,697	894,200	Grodno on the Niemen.
3	Vitebsk,	17,449	776,524	Vitebsk on the Dwina.
4	Moghilev,	18,451	923,888	Moghilev on the Dnieper.
5	Minsk,	34,477	1,001,338	Minsk.
6	Volhynia,	27,538	1,602,717	Jitomir.
7	Podolia,	16,388	1,870,000	Kamienetz on the Dniester,
8	Kovno,	15,715	1,051,914	Bialystock.

VI. POLAND.—Ten Governments.

Poland,		43,240	5,319,363	Warsaw on the Vistula.

VII. SOUTH OR NEW RUSSIA.—Five Governments.

1	Jekaterinoslavl	26,056	1,204,751	Jekaterinoslavl on the Dnieper.
2	Kherson,	27,713	1,330,152	Odessa on the Black Sea.
3	Taurida,	24,688	659,509	Simferopol.
4	Bessarabia,	13,477	1,026,344	Kickinev on the Dniester.
5	Don Cossacks,	63,778	949,630	Tcherkask on the Don.

VIII. KASAN.—Five Governments.

1	Kasan,	33,729	1,607,125	Kazan on the Volga.
2	Viatka,	55,392	2,220,074	Viatka on the Viatka.
3	Perm,*	128,640	2,138,308	Perm on the Kama
4	Simbirsk,	18,781	1,183,315	Simbirsk on the Kama.
5	Penza,	14,647	1,175,980	Penza on the Soura.

IX. ASTRAKHAN.—Five Governments.

1	Astrakhan,	85,086	511,236	Astrakhan on the Volga.
2	Saratov,	37,603	1,688,447	Saratov on the Volga.
3	Orenburg,*	91,574	2,029,590	Orenburg on the Oural.
4	Samara,	61,349	1,690,779	Samara on the Volga.
5	Ufa,	45,796	1,265,000	Ufa on the Ufa.

The Baltic Provinces, with the exception of Courland, which was a part of Poland, once belonged to Sweden. They extend from the mouth of the *Memel* to the mouth of the *Svir* (at the S.E. of L. Ladoga), include half of the tongue of land between the G. of Finland and this lake, and

* This Government is partly in Asia. Though *Caucasia* is partly in Europe, we shall treat of it under Asia.

enclose the G. of Riga. The isle of *Dagò* belongs to Esthonia, and *Oesel* to Livonia. St. Petersburg is a rather barren province, with a flat surface studded over with parks and gardens and residences of the wealthier inhabitants of the metropolis. Several pine forests, small lakes, and marshes, are scattered through these provinces, whose crops consist of rye, barley, flax, and hemp. The climate is cold, and the winter long and severe.

St. Petersburg (900,000) stands on both banks of the river Neva, and several islands at the bottom of the gulf of Finland. Its foundation was laid in 1703, by Peter the Great (at the expense of the lives of thousands of workmen), in the midst of an unhealthy swamp. The city, which is of an oval shape and regularly built, is one of the most magnificent capitals of Europe. An equestrian statue of the founder, on a massive granite block, adorns one of the chief thoroughfares, and most of the government buildings are of palatial excellence. The climate in winter is so cold that public fires are seen in different places for coachmen, servants, and others whose occupation compels them to remain some time in the open air. Sometimes the cold is 54° below zero. The university was founded in 1819. In summer trade is active. Besides a brisk trade in furs, pitch, tar, iron, etc., it has sugar refineries and many other factories. A few miles distant is **Pultowa**, the seat of the national observatory.

Kronstadt (47,000), on an island 12 miles distant, is a very strong fortress, fruitlessly attacked by the Allies, 1855—the usual station of the fleet. **Revel** (20,000), on the S. of the gulf, is strongly fortified. **Narva** was the scene of a defeat of Peter the Great by Charles XII., 1700. **Riga** (90,000), at the mouth of the S Dwina, is one of the most commercial towns, and exports great quantities of flax-seed, corn, and timber. **Dorpat** (14,000) and **Mittau** (25,000) have universities. **Libau** is a small wood-built port, the most western in Russia.

Great Russia extends from 49° 30′ to 61° north latitude, touching lake Peipus on the North-W. It includes the whole of the centre of the country, and contains the great seats of agricultural, manufacturing, and mining industries. The surface is extremely level, and the landscape uninviting. In the west are the *Valdai* hills. This province, which is also called *Muscovy*, is traversed by many fine rivers.

Moscow (400,000), the ancient capital of Russia, near the centre of the country, is still the winter residence of many of the nobility. In 1812, on the approach of the French, more than three-fourths of the city was burned. The principal building is the *Kremlin*, on a hill in the centre, triangular in shape, and a mile in circuit. There are some splendid churches, convents, hospitals, and schools. Its manufactures consist of woollens, cottons, silks, and carpets; and it is a great centre of the fur trade. It has a university. Near is the village *Borodino*, where the French defeated the Russians, 1812.

Tula (60,000) has been called the "Birmingham of Russia," from its immense manufactures of fire-arms, &c. At Torjok are manufactures of Russian leather. Nijni Novgorod* (47,000), on the Volga and Oka, 300 miles east of Moscow, is remarkable for its fair, which lasts six weeks in July and August, at which hundreds of thousands attend. Novgorod (15,000), near L. Ilmen, is a very old town, 100 miles S. of St. Petersburg. It was the ancient capital of the kingdom, and became a leading factory of the Hanseatic League, with a government almost republican. In 1478 Ivan III. confiscated its property, and put in irons the Hanse merchants. It was then a city of 400,000 inhabitants. It has an old cathedral and a kremlin, or palace, in ruins. Archangel (25,000), though closed by ice nine months in the year, was the only port before the founding of St. Petersburg, from which it is 400 miles distant. It stands on the Dwina. Kola (800) is inhabited by fishermen and hunters. Smolensk (13,000), with linen and paper trade, was the scene of a dearly-bought victory of the French over the Russians, 1812. Olonetz (3,000) was the place where Peter the Great erected the first dock-yard. Vologda (14,000) has two cathedrals and active trade. It is a wooden town. Kostroma (14,000), on the Volga, has trade in Prussian blue and copper. Kaluga (35,000) is a great manufacturing town, with cotton, cloth, oil, paper, glass, leather, and sail-cloth making. Tver (24,000), a fortified city, was consumed by fire, 1763, but the new town is beautifully built. Vladimir (7,000), was the capital of the Grand Duchy of Russia from 1157 to 1328. Kursk (20,000) has an active commerce and an important fair. Voronetz (19,000), on the Don, also has active trade.

Finland, which has belonged to Russia since 1809, is a grand duchy on the N.W., extending 750 miles from N. to S., and 185 miles from E. to W. Nearly one third of the surface is covered with lakes and marshes, although most of the country is 600 feet above sea level. The coast on the

* *Novgorod*, that is, "new town;" *nijni* means "lower."

S. has many rocky islands near the mainland. Forests in the interior are still numerous. Fishing and cattle-breeding are the chief industrial occupations, and pitch, tar, timber, and resin are exported. The climate is rigorous, and winter lasts seven months; spring lasts during the month of May; autumn the month of September, with summer intervening.

Helsingfors (16,000) is a strongly fortified town, with a university, a cathedral, and a senate-house. It is now a favourite watering-place, and exports timber and fish. **Sweaborg** is its fortress. **Abo** (10,000), the ancient capital, which is near the Gulf of Bothnia, and has an old cathedral. **Tornea** (1,000), on an island in the river of the same name, is of mean appearance, but in summer has active trade.

The **Aland Isles**, at the entrance of the Gulf of Bothnia, consist of about 60 inhabited isles, and 200 islets. The inhabitants are hunters, fishers, and pilots, and delight in the approach of winter.

Aland, the largest isle, contains the fortress **Bomarsund**, taken by the Allies, 1854.

Little Russia, lying along the middle course of the Dnieper, was the nucleus of the empire, and is of a triangular shape. The soil is rich and very productive, except at the south, where it is rather barren.

Kiev (70,000), a very ancient city, was the capital for nearly 300 years. The cathedral of St. Sophia has seven gilt domes. It was here that Christianity was introduced into Russia. It has also a university, and a place of pilgrimage. **Pultava** (8,000) near the Dnieper, is the place where Charles XII. was defeated by Peter the Great, 1709. **Kharkov** (45,000), near the Donetz, with a university, has trade in wool and corn.

West Russia borders on the Austrian province of Galicia, approaches the Baltic at Memel, and runs near to the Valdai hills in the N.E. The *Niemen* and *Pripet* are its chief rivers. It contains many swamps, marshes, and

forests, which are inhabited by elks, boars, wolves, badgers, and many species of game birds.

Wilna (56,000), in a dreary district, is principally inhabited by Jews, and has trade with the interior and E. Prussia. **Grodno** (16,000) has trade in woollens and fire-arms, but is fast declining. Here Stanislaus, last king of Poland, abdicated, 1795. **Minsk** (24,000), has a handsome Catholic cathedral, is the see of a Greek archbishop, has annual fairs, and trade in timber, iron, and leather. **Vitebsk** (17,000) is a wooden town encircled by walls, and has trade in linens and woollens. **Polotsk** (10,000) was taken from the Poles, 1579 and 1655. **Mohilev** (24,000) is a well-built, walled town, with many churches, schools, and public buildings, with great trade in tobacco.

Vistula Provinces or Russian Poland* is level (hence its name), covered with numerous forests in some parts, but in others containing the best wheat-producing soil in Europe, as well as the best pasturage. Agriculture, owing to political agitation and national discontent, is not far advanced. In the forests are wild animals called *aurochs*,† of which about 1,500 still survive. Most of the provinces of "West Russia" belonged to ancient Poland.

Warsaw (250,000) stands on ground gently rising from the river, and is strongly fortified. The streets are narrow, but the squares well-built and spacious, and the gardens and promenades exquisite. It contains the king's (now the viceroy's) palace, mint, exchange, cathedral, and extensive barracks. Warsaw has manufactures of woollens, soap, paper, hosiery, and hardware, and is a great centre of industry. In 1830 a formidable insurrection broke out here, which was put down with much cruelty by the Russians. A similar abortive attempt at independence was made in 1863.

Kaliscz or **Kalisch** (17,000) stands on an island in the river *Prosna*. It is a centre of commerce. Here in 1706 the Swedes were defeated by the Poles. **Plock** (6,000), with active transit trade, has trade in leather and skins. **Lublin** (17,000) has cloth manufactures, trade in corn and Hungarian wines, and three large annual fairs. **Zamosz** (5,000) is an important military post, unsuccessfully attacked by the Swedes,

* Poland was annexed to Russia at three successive periods, 1772, 1793, and 1795, by the infamous treaties in which Prussia and Austria also took part.

† They are a species of ox or bison, which are larger than any of our native cattle. They are protected by the Emperor, and hunted only once in fifty years.

1656; taken by the Saxons, 1715; and garrisoned by the French 1812. **Pultusk**, on the *Narew*, was the scene of a defeat of the Russians by the French, 1806.

South or New Russia embraces the Crimea, and runs from the Turkish border round the N. of the Black Sea, and most of the Sea of Azov. In general it consists of plains and steppes (unwooded), with extensive swamps, and tracts of saline sand, of a dreary appearance in winter, and subject to violent storms and attacks of locusts. The *Crimea* is 170 miles from E. to W., and 130 from N. to S., with an area of 10,500 square miles; a high ridge runs along the S. coast, and a series of steppes lie to the N. of it. *Bessarabia*, on the Turkish border, is a rich agricultural district—ceded by Turkey to Russia.

Odessa (250,000), a well-built city is on the Black Sea, 1,200 miles from St. Petersburg, and was founded in 1792. It is a free port, with extensive trade, and one of the greatest places in the world for the exportation of wheat. In 1854 it was bombarded by the Allies.

Kherson (40,000) is fortified, and has considerable trade, with a dockyard and an arsenal. Here Howard the philanthropist, died, 1790. **Khaterinoslav** (14,000) was founded in honour of the Empress Catherine II., 1787; has an important wool-fair. **Tanganrog** (18,000) a great outlet for the Don grain districts, is closed by the ice half the year. Two railways reach it from Moscow and Voloncz. In 1855 it was bombarded by the Allies. **Rostov** and **Azof** are small towns near the mouth of the Don. **Simferopol** (16,000), the residence of the Russian authorities in the Crimea, has handsome streets, and much resembles an Asiatic town. **Sebastopol** was founded in 1787, and made the chief arsenal of the Russian fleet. It has an excellent harbour. Here occurred the famous siege by the English, French, Turks, and Sardinians, 1854-55.* **Kaffa**, (9000), a free port was taken by the allies, 1855, and also **Kertch** (8,000). **Kishenau** (40,000), the capital of Bessarabia, is in the midst of an agricultural district. **Bender** (10,000) was the residence of Charles XII. for two years. **Choczim** (12,000) was the scene of a defeat of the Turks, 1673, by John Sobi-

* The chief battles in this war were:—*Inkerman*, won by the Allies, 5th November, 1854; *Balaklava*, won by the Allies, 25th October, 1854. Here the British troops suffered much misery, owing to the wretched condition of the harbour. The battle of *Alma*, on the small river of the same name, was won in 1854.

eski, and again in 1739 by the Russians. *Eupatoria* is a small bay in the Crimea, where the Allies disembarked, 1854. Perekop, a small place on the Isthmus, has a little trade. Nicolaiev (30,000) is a new port on the Bug, with an arsenal and some ship-building. Akerman (30,000), at the mouth of the Dniester, is an important town.

Kasan lies in the E. of Russia, under the Ural mountains. It consists of fertile soil in the N., with good pastures and arable land, and its rivers have valuable fisheries. Many of its inhabitants are Asiatic in dress and customs, and one of its governments, Perm, extends beyond the Urals.

Kasan (80,000) (*Volga*) is about 450 *m.* from Moscow, and has an oriental appearance. It is an important seat of trade with Siberia, as well as transit trade by the river.

Perm (12,000) (*Kama*) is important on account of the rich mines of iron, copper, and platina in the neighbourhood. Viatka (7,000) (*Viatka*) has iron manufactures. Simbirsk (17,000) (*Volga*) has trade in fish and corn. Penza (10,000) (*Sura*) has sulphur, iron, and vitriol in the neighbourhood.

Astrakhan* formerly a Tartar kingdom, borders on the Ural Mountains and the Caspian Sea. It contains a wide extent of the barren steppes or wastes, but has fertile land along the banks of the Volga. Salt is procured from the marshes of the steppes, and cattle are grazed on the plains in great numbers.

Astrakhan (47,900), stands on an island in the Volga delta, in the midst of a desert-like steppe. It contains a Persian and a Tartar commercial hall, a cathedral, and numerous schools. It has silk and leather factories, and extensive fisheries, the latter the chief source of its wealth. Its annual fairs are attended by 30,000 people.

Saratov (93,000) (*Volga*) consists of a walled town and a suburb, and has great transit trade, also woollen factories, and good fisheries. Sarepta (4,000) (*Volga*) has linen and silk trade. Orenburg (33,000) (*Ural*), mostly built of wood, has important trade with central Asia, with good fisheries. It is a good Tartar market town, 600 *m.* from Astrakhan. Its beautiful woollen lace shawls are much esteemed. Uralsk (13,000) (*Ural*) is chiefly inhabited by Cossacks. Samara (12,000) (*Volga*) has trade in iron, cattle, sheep, and skins.

* Some Geographers have a somewhat different arrangement: Astrakhan, under the name "Volga Provinces," only reaches as far E. as Orenburg, and running N.W. includes Kazan, while northwards it includes Novgorod; the "Ural Provinces" extend from Orenburg to North Russia.

Mountains.—The Caucasian and Ural Ranges have already been described. See p. 62.

Rivers.—The drainage of Russia may be conveniently described under four basins, each drained by four rivers:—I. the *Arctic* basin, drained by the *Petchora*, flowing into the gulf of same name in the N.E.; the *Mezen*, *Dwina*, and *Onega*, all flowing into the White Sea, and forming gulfs at their mouths: II. the *Baltic* basin, drained by the *Neva*, 40 miles long, flowing into the Gulf of Finland; the S. *Dwina*, into the Gulf of Riga; and the *Memel* and *Vistula*, into the S.E. of the Baltic: III. the *Black Sea* basin, including that of the Sea of Azov, drained by the Don into the Sea of Azov; *Dnieper*, *Bug*, and *Dniester*, into the Black Sea: IV. the *Caspian* basin, drained by the *Ural*, which forms the continental boundary; the *Volga*, the largest river in Europe; the *Kuma* and *Terek*, further south in Caucasia.

Lakes.—The lakes have already been sufficiently described, with the exception of *Elton*, near the Volga, containing 29 per cent. of salt, the saltest water known.

Coast Line.—The Arctic Ocean, west of Nova Zembla, is navigable only three months in the year; but E. of this island it is at all seasons encumbered with icebergs. The islands of *Nova Zembla*, the most northerly inhabited land, *Spitz-Bergen*, and *Waigatz*, are only remarkable on account of their birds and cetaceous animals. On the Arctic shore, the transition from heat to cold, or *vice versa*, is often sudden and violent from the mere change of wind. Fogs and storms continue several days at a time. The Gulf of Finland, like the Mersey in England, is the great commercial highway of the N.W. of this country. In winter, however, it is generally frozen, when it is traversed by sledges. Only two or three of the Russian Baltic ports can be entered in winter. The strait of Kaffa, between the Black Sea and Sea of Azov, is so shallow that only small vessels can pass through.

The ports of southern Russia have deep harbours, yet navigation is often dangerous, owing to the violent storms, prevalent particularly about the equinoxes; and in winter snow storms are common. The Sea of Azov is shallow and ice-bound during the winter months. The commerce of the Caspian is local and limited.

Climate.—In the N., and even in the central districts, long and rigorous winters prevail, which often succeed great heat. The southern districts enjoy a sufficiently mild climate most of the year. The climate of Russia much resembles that of America, the cold in winter and heat in summer being equally intense.

Productions.—Russia has mines of gold, copper, platina, and iron in the Ural Mountains, coal in the S., rich salt mines, abundance of

the finest fish, plenty of wheat in the centre, and timber of the best quality from many districts.

Exports.—Wheat, tallow, hemp, flax, iron, copper, potash, furs, leather, timber; almost all unmanufactured.

Imports.—Cotton yarn, sugar, wine, silk, worsted goods, indigo, etc.

Commerce.—The Russian commerce is rapidly increasing. The value of the exports and imports is about £30,000,000. Manufactures of cotton, silk, and woollen fabrics, chiefly of the inferior kind, are carried on in the principal towns. Russian leather, arms of excellent workmanship, sail-cloth, and cordage, glass, soap, and jewellery are all produced here. The government of Moscow is the centre of the manufacturing industry.

Inhabitants.—A region of so vast extent, increased by conquest and not by colonies, will naturally be inhabited by very different tribes of people, particularly when their occupations are dissimilar. The following are the chief tribes:—the *Finns*, who occupy Finland and the western slope of the Ural mountains; the *Laplanders*, who dwell on the extreme north; the *Poles*, who occupy Poland, amongst whom are many Jews; the *Cossacks*, in the South (famous horsemen), another tribe, of whom are the *Circassians*, whose beauty is proverbial. Many of these tribes, such as the Cossacks, are in a semi-barbarous state. The Russians are in general hospitable, and are the most numerous class (49 millions), as well as the rulers.

Education.—There are eight universities in Russia; St. Petersburg, Moscow, Kharkov, Kasan, Dorpat, Kiev, Helsingfors, and Odessa. Military schools are established at Petersburg and Moscow, and efforts are being made to instruct the better classes; but the serfs, an improvident race, are barbarously ignorant, and amongst them education has up to the present made but little progress. Indeed, it is stated that of the 82,000,000 of whom the empire is constituted 75,000,000 can neither read nor write.

SWITZERLAND.

Switzerland is bounded N. by Germany, S. by Italy, E. by Austria, and W. by France. On the N. the limits of the country are marked by the Rhine and Lake Constance; the Alps, with Lakes Maggiore and Lugano, determine the Italian frontier; and the Doubs, Jura mountains, and Lake Geneva, the French frontier.

Switzerland lies between the parallels of 45° 50′ and 47° 50′ N. latitude, and between the meridians of 5° 58′ and 10½ E. longitude.

It is remarkable for majestic mountains, beautiful lakes, picturesque valleys, and numerous cascades. On the N. and W. are several plains, but in the S., centre, and on the borders, are mountains, covered in many instances with perpetual snow, and enormous glaciers. The sides of most of these mountains yield excellent pasturage, on which are fed numbers of sheep and cattle. Cheese is made in many places, and largely exported. The climate of Switzerland is of infinite variety. On the mountain summits perpetual winter reigns; but in many of the valleys there is a delightful climate; and tobacco, figs, and olives are there cultivated.

Switzerland is divided into twenty-two cantons or provinces, seven of which are watered by the Rhine, and eleven others, though not watered by this river, belong to its basin; three belong to the basin of the Rhone, and one to that of the Ticino. The government consists of a confederation of twenty-five republics.

Cantons watered by the Rhine.

1. The **Grisons**, thinly peopled (capital *Coire*; German *Chur*), lie in the S.E., and are traversed by very high mountains. The mountain scenery is magnificent.

Coire (7,600) (*Rhine*) is in a most picturesque position. Splugen and Pontresina are villages visited by tourists.

2. **Saint Gall**, bordered on the E. by the Rhine, extends as far as Lake Constance. It is drained by the *Thur*.

St. Gall (17,000) (*Steinach*) is noted for its abbey, named from St. Gall, an Irishman, who journeyed thither.

3. **Thurgau** borders on the same lake, and is traversed by the same river.

Frauenfeld (3,000) (*Thur*), a modern place, has cotton factories.

4. **Schaffhausen**, the most northern part of Switzerland, lies N. of the Rhine.

Schaffhausen (10,000), the capital, stands on the Rhine, within 2 *m.* of the celebrated falls—great trade with South Germany.

5. **Zurich** is one of the most fertile and wealthy cantons. It is densely peopled, and has great thrift.

Zurich (21,000) is in a delightful situation on the borders of the beautiful lake Zurich, and has silk manufactures and a fine library. Here the French general Massena defeated the Russians under Souvarow, 1799.

6. **Aargau**, lying S. of the Rhine, is a district of considerable fertility, watered by the *Aar*, *Reuss*, and *Limmat*.

Aarau (5,100) (*Aar*) is an industrious town, with bleach-greens. Baden (3,000) (*Limmat*) has renowned sulphuric waters.

7. **Bâsle**, in the N.W., is made up of fertile valleys, bordered by good pasture mountains.

Basle (44,800) (*Rhine*) is an active cathedral town, with a university. It contains the tomb of Erasmus: Euler, and Holbein (the painter), were natives. An ecclesiastical council was held here, 1431-8. Liestal is a small country town.

Cantons in the Rhine Basin, but not watered by that river.

1. **Appenzell**, in the N.E., is surrounded by St. Gall; has two divisions, Inner and Outer *Rhoden;* the chief town of the former being *Appenzell* (3,000) and of the latter *Herisau*, which has cotton factories.

2. **Glarus** lies N. of the Grisons, and is mountainous, with some good pasture valleys. It exports green cheese.

Glarus (5,000) (*Linth*) has cotton and cloth factories. Its Gothic church is used both by Catholics and Protestants. *Nafels* was the scene of a victory over the Austrians, 1388.

3. **Schwitz**, or **Schwytz**, has given its name to the whole country. It borders on Lake Zurich in the N., Lake Lucerne on the S., and Lake Zug on the W.

Schwitz (5,700) has an arsenal and a college.

4. **Uri**, further S., is traversed by the Reuss, and borders on Mount Furca.

Altorf (2,500) (*Reuss*) is interesting on account of its legends of the Swiss patriot, William Tell.

5. **Unterwalden** lies to the W. of Uri, and to the S. of Lake Lucerne. It participates with the two previous cantons in the glory of having founded the confederation.

It is subdivided into: *Obwalden*, the capital of which is *Sarnen* (3,300), and *Nidwalden*, the capital of which is *Stanz* (2,000).

6. Zug, the smallest canton, surrounds the lake Zug, 12 *m.* long and 3 broad, and has the most enchanting scenery.

Zug (4,000), the capital, is on the lake of the same name. On the borders is *Morgarten*, a mountain pass, where the Swiss defeated the Austrians, 1315.

7. Lucerne, near the centre, together with Uri, Schwitz, and Unterwalden, makes up the four forest cantons. The scenery here is delightfully picturesque.

Lucerne (15,000) (*Reuss*) is a great centre of trade, and one of the three towns in which the Diet meets. It may be considered the Catholic Swiss capital, and has the best corn market in the country. Sempach was the scene of a victory of the Swiss over the Austrians, 1386.

8. Soleure, in the W., borders on France. It is traversed by the Jura mountains.

Soleure (6,000) (*Aar*) has a museum containing interesting collections. Olten, on the same river, is a great railway centre.

9. Berne extends from the French border to the Bernese Alps, and contains the pretty lakes, Thun, Brienz, and Bienne. This canton has beautiful plains in the centre, and immense glaciers on its southern mountains; the most remarkable being Grindelwald, and the Lauterbrunen. The Aar, a navigable stream, traverses most of the canton.

Berne, or Bern (36,000), the capital of the Republic, is on a sandstone platform 1,900 feet above sea level, commanding delightful views. It has an active trade, and contains the senate-house, a cathedral, and an observatory.

Thun (5,000) (*Aar*) contains the military school of the country. Interlachen (2,000) is visited by numbers of strangers, who purchase wood carvings. Bienne (4,300) is near the Jura mountains.

10. Freyburg, or Fribourg, is much diversified in surface. It contains good meadow lands, and has many dairies. The *Gruyère* cheese is produced at a village of this name.

Freyburg (11,000), on the Sarine, has a most picturesque site, 2,000 feet above sea level. *Morat* was the scene of a defeat of Charles the Bold of Burgundy, 1476, by the Swiss.

11. **Neufchatel** lies in the W., between the lake of this name and the river Doubs. It is traversed by ridges of the Jura, and has beautiful valleys, the most remarkable of which is *Val Travers*, now so well known. Until 1857 it belonged to the King of Prussia, as a principality.

Neufchatel (13,000) (*Seyon*) is well built, exports wine, and has great industry in watch-making, which is the principal handicraft of the whole canton; wine is largely exported. Chaux-de-Fonds (19,900) and Locle (10,600) are also engaged in watch and clock making, and are near the French frontier.

Cantons belonging to the Rhone and Ticino.

1. **Valais*** extends along the valley of the Rhone, and is one of the most romantic regions in the world, consisting of a "great trough" 70 miles long, 2 wide, and half-a-mile deep, bordered on the N. by the Bernese, and on the S. by the Penine and Lepontine Alps, including the mountains Simplon and St. Bernard, from which rapid torrents descend.

Sion (4,000), the capital, on the Rhone, is an inconsiderable town on the route to the Simplon pass, amidst nice scenery. Leuk, a village on the same river, is near the celebrated mineral springs of Leukerbad, at the foot of the Gemmi pass across the Bernese Alps. Martigny (*Rhone*) is a small place, which named a modern rifle. Zermatt, a village with splendid views of *M. Cervin*, *M. Rosa*, and other scenery, has mineral waters.

2. **Vaud** runs along the N. shore of Lake Geneva, and was admitted into the Swiss Confederation in 1798.

Lausanne (27,000) (*L. Geneva*) has a beautiful situation on three hills and the small vales between. It has a cathedral, a museum, and a college; and its inhabitants are engaged in watch-making. Here Gibbon completed his history; and at *Ferney* Voltaire long resided.

Vevay (6,000), in the centre of orchards and vineyards, has manufactures of cigars. Granson, W. of the lake, was the scene of a victory of the Swiss over the Burgundians, 1476. Bex (3,600) (*Rhone*) is a beautiful little town, with nice walks, good baths, etc. Montreux (2,300), a lovely village, is a winter residence for invalids.

3. **Geneva**, though one of the smallest, is one of the most important of all the cantons. It is watered by the Rhone.

Geneva (47,000) (*Rhone*), the largest, richest, and handsomest city in Switzerland, is remarkable for enterprise, industry, and literary

* The inhabitants are afflicted by two diseases which are very prevalent—*goitre*, or a malformation of the neck, and a kind of idiocy called *cretinism*.

taste. The chief manufactures are watches, chronometers, musical boxes, mathematical instruments, and jewellery. It stands on two hills, separated by the river, near the lake, in a delightful position, and is a fast improving place. Here an arbitration was conducted, which settled the "Alabama Claims," 1872.

4. Tessin lies on the Italian border, with an Italian climate and language. It slopes from Mount St. Gothard to Lake Maggiore, into which flows the *Tessin* or *Ticino*.

Lugano (5,400), on the lake of the same name, has trade in silk. Bellinzona (2,000) (*Ticino*) has three old castles. Locarno (3,000) stands on the north shore of the Lake Maggiore.

Mountains.—The chief Alpine chains have been given. About two-thirds of the surface of the country is covered with mountains, the culminating point, irrespective of border chains, being *Finster-Aarhorn*, a needle-shaped peak (14,110 feet). Among the chief peaks may be named—the *Matterhorn* (14,766 feet), the *Jung-frau*, or "Maiden" (13,620 feet); the *Wetterhorn*, or "Peak of Tempests" (12,200 feet); the two *Schreckhorner*, or "Peaks of Terror" (13,400 feet); the *Monch* (13,500); the *Great Eigher*, or "Giant" (13,075 feet above the level of the sea. *The Great St. Bernard* is 30 *m.* from Martigny, with a summit 11,000 feet above sea level; it has a monastery noted for its hospitality to travellers. Hannibal, Charlemagne, Francis I., and Napoleon I. crossed this pass (8,200 ft.) with armies.

The snows which accumulate on the mountains often fall or glide down their precipitous sides, causing serious injury to the dwellings beneath—such a snow-fall is called an *avalanche*. At the bottom of the *glaciers*, "seas of ice," are stones and earth, often the debris of avalanches, called *moraines*.* Sudden thaws on the mountain tops produce floods in the valleys. *Landslips* are also very dangerous, but of rare occurrence. One of these, in 1806, covered the village of Goldau. The most remarkable *gorges* are in the valley of the Rhine near *Tusis*, called *Via Mala*, and *Gondo*, at the head of the Simplon pass. Among the waterfalls, *Staubbach*, or "Dustfall," which falls in a shower of spray a distance of 850 feet, is the most remarkable. Two other falls, the *Grimsel*, at the head of the Aar valley, and the *Aar*, at Handek, are also worthy of note.

Railways.—The Swiss lakes have usually steam communication on their surface. "The plain is now overspread from one end to the other with a network of railways, which in many directions send ramifications into the Alpine valleys."

* Glaciers are caused first by the partial thawing, and secondly by the congelation of the snowy masses. *Lateral* moraines are formed on the sides as the glacier descends. Sometimes a *medial* moraine is formed in the centre.

Rivers.—The waters of Switzerland are not only carried to the North Sea and Mediterranean by the Rhine and Rhone, but are also conveyed to the Adriatic by the Ticino, and to the Black Sea by the Inn.

The *Aar*, the largest purely Swiss river, rises in a glacier in the Bernese Alps, descending rapidly to L. Brienz, and then to L. Thun. Proceeding N.W. it is joined by the *Saane*, turning N.E. it receives the *Thiel* from L. Neufchatel. It also receives the Reuss, an impetuous and picturesque stream rising in Mount St. Gothard, and passing through L. Lucerne. The *Limmat* passes through L. Zurich, and joins the Aar in Aargau. The Aar finally turns N. and joins the Rhine at Waldshut, both streams being now nearly equal in volume. The *Rhone*, which rises in Mount Furca, receives the *Arve* near Geneva. The *Ticino* belongs more to Italy, and the *Inn*, which waters the beautiful *Engadine* valley, to Austria. Owing to the melting of the ice on the mountains, the Swiss rivers are most swollen in summer.

Mineral Springs.—The most important are at *Leuk* and in the lonely valley of *Zermatt*.

Lakes.—The Swiss lakes are remarkable, in most instances, for sublime beauty. Lucerne has exquisite scenery around. With the exception of Sweden and Finland, no part of Europe has so many lakes in the same extent of territory. Geneva is often called Leman. Finland, no part of Europe has so many lakes in the same extent of territory. Geneva is often called Leman.

Animals.—The *marmots*, valued for their fur, the *chamois* for their skin, the *ibex* or rock-goat, the *wolf* and *bear*, are the most remarkable.

The Minerals are unimportant. A little coal and iron are found.

Industries.—*Manufactures* consist of *silks* at Zurich and Bâsle; *cottons* at St. Gall and Appenzell; *straw plait* in Aargau and Lucerne; *watchmaking* at Neufchatel and Geneva. During the summer the cattle are driven into the mountain districts, and herdsmen, living in wooden huts, called *chalêts*, make the butter and cheese. Wood-cutting, both for fuel and exportation, is a chief industry.

Inhabitants.—The inhabitants are hardy, industrious, and patriotic. They dwell in neat and tidy homesteads, but are rather exorbitant in their demands on travellers, who flock to view those natural beauties which the natives seem incapable of appreciating.

Education.—Elementary education is very widely diffused. There are universities on the German model at Bâsle, Berne, and Zurich; and colleges on the French model at Geneva and Lausanne.

Government is a republic of two houses—the Stände-Rath of two members elected by each canton; the National Rath of 135 deputies of direct election, one for every 20,000 people.

ASIA.

Asia, the largest and most populous of the great divisions of the globe, extends from Cape Baba, the most western, to E. Cape, the most eastern point, 6,000 miles; and from Singapore, the most southern, to Cape Sievero, the most northern point, 5,500 miles.

It lies between 1° 20′ and 78° N. latitude, and between 26° E. and 170° W. longitude, or 190° E. longitude; and is bounded on the N. by the Arctic Ocean, E. by the Pacific, S. by the Indian Ocean, and W. by Europe, the Mediterranean, and Red Seas. The population, according to the latest and best authorities, is about 720 millions.

TABULAR VIEW OF THE ASIATIC COUNTRIES.

States.	Sq. miles.	Population.	Capital.
Turkey in Asia, -	478,767	15,563,000	Smyrna, on Smyrna Bay.
Arabia, - -	1,175,719	10,750,000	Mecca.
Persia, - -	648,000	10,000,000	Teheran.
Beloochistan, -	192,000	2,000,000	Kelat.
Afghanistan, -	210,000	5,120,000	Cabool, on the Cabool river.
India, - - -	1,500,000	238,000,000	Calcutta, on the Hooghly.
Nepaul, - -	54,500	1,940,000	Khatmandoo.
Bhotan, - -	19,800	1,000,000	Tassisudon.
Burmah, - -	184,000	8,000,000	Mandalay.
Malaya, - -	35,000	200,000	Perak, etc.
Siam, - - -	161,800	6,000,000	Bang-kok.
Cambodia, - - -	32,379	1,000,000	Udong.
Cochin China (French)	21,716	979,116	Saigon, on the Saigon.
Annam, - - -	174,000	42,000,000	Hué, on the Hué.
China, - - -	3,663,000	405,000,000	Pekin, on the Peiho
Turkestan, - -	493,000	5,000,000	Bokhara.
Thian-Shan, - -	490,000	5,500,000	Yarkand.
Russian Asia, - -	5,300,000	7,900,000	Tobolsk.
Japan, - - -	169,000	40,000,000	Yedo, on isle Nipon.

Surface.—The table-lands are computed to cover two-fifths of the whole continent; and this elevated mass is

divided into two parts by the Hindoo-koosh mountains. The eastern plateau consists of the desert of Gobi and the table-lands of Thibet, and extends E. to the G. of Tonquin, and S. to the Himalayas. The height varies from 6,000 to 18,000 feet. The western plateau rises from 5,000 to 7,000 feet above sea-level, but descends to about 1,200 feet in the S. This region includes the Armenian mountains, with the highlands of Anatolia. Asia has six great lowlands—(i.) *Siberia*, in the N., by far the largest; (ii.) the wild waste between the Caspian Sea and L. Aral, called the *Bucharian* lowland, a part of which is below sea-level; (iii.) the *Syrian* and *Arabian* lowland, the S. of which is an arid plain, and the N. watered by the Tigris and Euphrates, (iv.) the *Indian* lowland, including the Indian desert, and the rich valley of the Ganges; (v.) the *Indo-Chinese* lowland, including the valleys in Burmah, Cambodia, and Siam; (vi.) the *Chinese* lowland, which, with the most productive soil on the globe, is about as large as France, and includes most of the E. of China, S. of Pekin.

Seas.—The principal are—the Red Sea, the Arabian, Chinese, Eastern, and Yellow Seas, the Seas of Japan, Okhotsk, and Kamtschatka.

The **Red Sea**, or Arabian Gulf, stretches from the Isthmus of Suez to the Straits of Babel-mandeb, about 1,400 miles, with a breadth varying from 230 to 20 miles. On the N. it divides into the Gulfs of *Suez* and *Akabah*, separated from each other by the peninsula of Sinai. The depth varies much, the shallowest part being the Gulf of Suez, from 40 fathoms, at its entrance, to 3 at the harbour of Suez. Since the opening of the Suez Canal, this sea has become a great highway for shipping with the East, though, on account of the number of islands and the prevalence of violent winds, navigation is rather difficult.

The **Arabian Sea** is properly a bay of the Indian Ocean, lying between Arabia and India, with two great branches—the Persian Gulf and the Red Sea. The trade winds blow here with great regularity.

The **Chinese Sea** lies S. of China and E. of Cochin China, N. of Borneo, and W. of Luzon.

The **Eastern Sea** lies E. of China; and N. of it, between China and Corea, is the **Yellow Sea**. The **Sea of Japan** separates the continent

from the Japan Isles; and the Sea of Okhotsk is between the peninsula of the same name and the Island of Saghalien. Kamtschatka Sea separates Asia from America, being shut in by the Aleutian islands.

Islands.—The groups of Islands in the S.E., between the Pacific and the Indian Oceans, are now usually classed with Australia. In the Arctic Ocean are the barren islands, *Liakov* and *New Siberia;* in the Mediterranean, *Cyprus* and *Rhodes;* S. W. of India, the *Laccadive* and *Maldive* groups; *Ceylon;* in the Bay of Bengal, the *Andaman* and *Nicobar* isles; *Hainan, Hong Kong,* and *Formosa,* off the coast of China; the *Loo Choo, Japan,* and *Kurile* isles; and the island *Saghalien* or *Sachalien,* off the E. coast of Asia.

Peninsulas.—The chief are—*Asia Minor, Arabia, Hindoostan, Malaya, Cambodia, Corea,* and *Kamtschatka.*

Capes.—The chief are—*Baba,* in Turkey; *Ras-el-had,* in Arabia; *Negrais,* in Pegu; *Comorin,* S. of India; *Romania,* in Malacca; *Camboja* point; *Lopatka* and *Kronotski,* in Kamtschatka; *East* and *North* capes, and Cape *Sievero* on the North coast.

Gulfs and Bays.—The *Levant, Suez, Akabah,* and *Aden,* on the W.; the *Persian* gulf; gulfs of *Cutch, Cambay,* and *Manaar,* in India; *Martaban,* in Further India; *Siam,* in the S. of Siam; *Tonquin,* E. of Annam; *Pechili,* E. of China; *Tartary,* W. of Saghalien; Gulf of *Anadir,* at Behring's strait; and the gulfs of *Obi* and *Yenesei,* on the N.

Straits.—The *Bosphorus, Dardanelles,* and *Babel-Mandeb* on the W., *Ormus, Palk's, Malacca,* and *Hainan,* on the S., *Formoso, Corea, Sangar, Perouse,* and *Behring's* straits on the E., the latter separating Asia from America.

Mountains.—The chief are—The *Himalayas,* N. of India; the *Altai,* S. of Siberia. These ranges are connected on the W. by the *Karakorum,** N. of Cashmere, and the *Thian Shan,* E. of Turkestan. The continuation of the

* The *Bolor Dagh,* a continuation of this range, has been recently proved to be more a plateau than a mountain chain.

Korakorum W. is called the *Hindoo Koosh*, and the E. the *Kuin Jun*, which further E. is called *Nan Shan*. In India are the *East* and *West Ghauts;* in Arabia, Mount *Horeb;* in Turkey, Mounts *Lebanon* and *Ararat;* in Persia, the *Elburz;* in Central China, *Sin Ling* and *Kingan;* in E. Siberia, *Yablonoi* and *Stanovoi* ranges. The border ranges, Ural and Caucasian, have been described.

The loftiest mountains on the surface of the globe are the *Himalayas* ("the abode of snow"), which reach above the clouds when viewed at a distance, the highest summits being covered with snow. Their length is almost 1,500 miles, with a mean elevation of 15,000 feet, 45 peaks reaching 23,000 feet, and breadth, where narrowest, about 400 miles. On the Indian side, at the base, is an exceedingly unhealthy region. The snow line on the S. is 16,200 feet, and on the N. 17,400 feet, the dry atmosphere of Thibet causing an accumulation of heat. Glaciers are found above the snow line. Several of the passes are closed with snow from November to May. The highest used for foot passengers is *Parang* (18,500 feet). The tea plant can be reared on the S. side to the height of 5,000 feet. Tigers and monkeys are found above 1,000 feet from the base; leopards and snakes still higher.

The Altai ("gold mountain") ranges form the boundary between the Russian and Chinese empires. Their breadth reaches in some places several hundred miles, and the chain bears different names. The *Great Altai* reach the height of perpetual snow, and overhang the desert of *Gobi*. The *Russian Altai* abound in mineral wealth, containing gold, silver, copper, and lead. Most of the inhabitants lead a nomadic life, dwelling in summer among the rich pastures with their cattle, and in winter in the shelter of the well-wooded glens.

A description of the other mountains will be given with the countries to which they belong.

Rivers flowing south are—the *Tigris* and *Euphrates*, into the Persian Gulf; the *Indus*, into the Arabian Sea; the *Godavery, Ganges, Brahmapootra*, and *Irrawaddy*, into the Bay of Bengal; and the *Cambodia*, into the Chinese Sea. Flowing E. are the *Canton, Yang-tse-Kiang, Hoang-ho*, and *Amour*, in China. Flowing N. are the *Lena, Obi*, and *Yenesei*. Flowing into the Caspian Sea, are the *Aras* and *Atrek;* and flowing into the Sea of Aral, the *Amoo* and *Sir Daria*.

The Ganges, the most important to Europeans of the Asiatic rivers,

rises in the Himalaya mountains, has a course of 1,500 miles, and receives in passing through the plains eleven streams, none of which are smaller than the Thames, and some of them even equal to the Rhine. About 200 miles from the sea it divides into from 12 to 20 rivers, which form its delta, and through these "mouths" it discharges into the bay of Bengal. The district of the delta is called the *Sunderbunds;* it is covered with long grass, vegetable matter, and copse-wood—a secure haunt for crocodiles, tigers, and other wild animals, which are found here in great numbers.* In the rainy season the Ganges overflows its banks, and inundates the surrounding country; but, although this benefits the soil, many lives are lost, and much property destroyed. It is regarded by the Hindoos with peculiar veneration; particularly so at Hurdwar, where the stream first issues from the mountains. The Hindoos are in a court of justice sworn on its sacred waters, as are Christians on the Gospels, and Mahomedans on the Koran. Great changes are made in the surrounding country by the river; old channels are filled up with mud and sand, and new ones formed. These changes take place during the inundations, when the current is rapid and powerful. The tide ascends the river with great force; and in the principal branch, called the Hooghly, a "bore" is formed. The principal tributaries of the Ganges are, on the south side, the *Jumna* and *Chumbut*, and, on the north, the *Gogra* and *Goomtee*. The towns on its banks are Calcutta, Patna, Benares, Allahabad, Cawnpore, and Hurdwar.

The **Indus** rises in the highlands of Thibet (18,000 feet high), and after traversing the fertile valley of Cashmere, flows south, and receives the five rivers of the Punjaub, viz., the *Ravee, Chenab, Sutlej, Beas*, and *Jhelum*. It pursues a parallel course to the Suliman mountains, and after 1,700 miles flows into the Indian Ocean by several mouths. It is a longer river than the Ganges, but its body of water is much less, and the country it drains is more contracted. The district of Scinde, through which it passes, is fertile, but this is succeeded by a desert region stretching towards the east, and extending nearly to the mouth of the river. Kurrachee is an active port north of the river; Tatta and Hyderabad are on the main stream.

The **Irrawaddy** flows from the plateau of Thibet, through Burmah and Pegu into the Gulf of Martaban. It is supposed to have a course of 1,200 miles—nearly equal to that of the Ganges. Little is known regarding its upper waters. Along the lower course it passes through a thickly wooded country, flat, damp, and unhealthy, and inhabited by an indolent and jealous race who throw every obstacle in the way

* The ravages of the wild animals now reach an incredible figure; 10,000 human beings are annually destroyed by them.

of foreigners who seek to open up the trade or explore the country. Many attempts have been made to enter China by this river, and a subsequent overland route, but all have hitherto failed, owing to the hostility of the chiefs of the interior, instigated, probably, by the Chinese. At Prome its waters rise 40 feet in the wet season.

Lakes.—The *Caspian Sea*, *Sea of Aral*, *Baikal*, *Van*, *Dead Sea*, *Urumiah*, *Balkash*, *Paltee*, *Lob*, and *Tong-ting*.

TURKEY IN ASIA.

Turkey in Asia lies between the 30th and the 42nd parallels; and between the meridians of 26° and 48° east longitude. The Black Sea, Marmora, Archipelago, Mediterranean, and Persian Gulf wash it; and it includes the islands of *Cyprus*, *Rhodes*, *Cos*, *Samos*, *Scio*, *Mytilene*, with several smaller ones. It borders on Arabia and Egypt at *El Arish*, on the Levant; on Caucasia, midway between Gunieh and Poti; on the Black Sea; and on the Persian Gulf at the mouth of the Shat-el-Arab. From Cape Baba to the Persian Gulf is about 1,400, and from Sinope on the Black Sea to the Isthmus of Suez 850 miles.

Three physical districts are distinguished: (i.) The highlands of Armenia and Asia Minor. (ii.) The district along the shores of the Mediterranean. (iii.) The lowlands watered by the Tigris and Euphrates in the S.E. In the W. most of the country slopes from Mount Taurus towards the Black Sea. No large rivers, with the exception of the Tigris and Euphrates, are found in this extensive country the others being mostly mountain streams.

The following are the usual divisions:—

I. *Asia Minor* or *Anatolia*; (ii.) Turkish *Armenia* and *Kurdistan*; (iii.) *Mesopotamia* or *Al Jezireh*, and *Irak Arabi* or *Babylonia*; and (iv.) *Syria*, including *Palestine*.

Asia Minor is a peninsula with the Black Sea on the N., the Mediterranean on the S., and extending as far as the Euphrates. In the interior are elevated plains, consisting of good pastures, though treeless on the top.

The slopes of the table-lands and lower hills are well wooded, particularly near the Black Sea, where productive coal mines are worked. Rich mines of copper and lead are also found in many places. An extensive tract N. of Mount Taurus "is covered with salt marshes, lakes, and rivers, possessing no visible outlet." The rivers which flow into the Black and Mediterranean seas can hardly be said to be navigable, and afford but little communication of a commercial kind to the towns near them.

DIVISIONS OF ASIA MINOR.

Governments.	Capitals.	Population of Capitals.
Smyrna, - - - -	Smyrna,	150,000
Khodavendikiar - - -	Brusa,	70,000
Konieh or Karaman, - - -	Konieh,	20,000
Angorah or Bozok, - - -	Angorah,	23,000
Kastamuni, - - - -	Kastamuni,	12,000
Sivas or Room, - - -	Sivas,	30,000
Trebizond, - - - -	Trebizond,	45,000
Cyprus, etc., - - -	Nicosia,	12,000

The province of **Smyrna** lies in the S.W. It has several deep gulfs, with islands along its coast line, which is the most irregular of all the provinces in Asiatic Turkey. Industries are languidly pursued.

Smyrna stands at the head of a gulf in the Archipelago, and has among its inhabitants merchants of every country in the world. The Turks call it *Ismir*, "the lovely." It claims to be the birth-place of Homer. It has six newspapers, published in five different languages; immense exports of dried fruits, as well as silk, raw cotton, goats' hair, and skins, olive oil, drugs, and gums. Though trebled during the last twenty years, its trade, in the absence of wharves, must be carried on by lighters, which tardily communicate with the vessels in the harbour. It is the steam-packet and telegraph head-quarters for the Levant.

Aidin (50,000) is connected with Smyrna by a railway. It is a great cotton centre. Magnesia (45,000) has great commercial activity with the capital. Near is *Thyatira*, one of the seven churches. Bainder (15,000) is a large town, with a fair trade.

Brusa (70,000), at the base of Mount Olympus, has thermal waters, splendid gardens, and 365 mosques. In 1855 it was nearly destroyed by an earthquake.

Scutari or **Iskudar** (60,000), immediately opposite Constantinople, has a beautiful site. Here are the Sultan's palace and gardens, a college and barracks. In 1854 an Anglo-French hospital for the allied army in the "Crimean War" was formed here. **Kuytayah** (50,000), a well-built city in the interior, is the chief seat of the Turkey carpet manufacture. The military government of Asia Minor resides here. **Mualitch**, W. of Brusa, exports raw silk and wool.

Karaman, on the Mediterranean coast, is traversed by the Taurus mountains, which approach near the sea, and surround the Gulf of Adalia.

Konieh stands in the fertile plain, has various manufactures, and meerschaum quarries in the vicinity. It is the ancient *Iconium*.

Adalia, on the gulf of the same name, is a thriving port. **Karaman** (7,000) is a scattered town, with manufactures of blue cotten cloth.

Angora, N. of Karaman, is an inland province, divided into two almost equal parts by the river *Kizil-Irmak*.

Angora occupies an elevated site in the interior, and has many antiquities. On the plain around are fed the silky-haired goats, whose wool is a valuable article of commerce and manufacture.

Kaisarieh (25,000) is situated in a fertile plain, in the midst of cotton plantations: nut-galls and madder are exported.

Kastamuni lies along the Black Sea, chiefly W. of the river *Kizil-Irmak*, and has a very diversified surface.

Kastamuni, at 2,500 feet above sea-level, has public baths, trade in wool, and manufactures of printed cottons.

Sinope (10,000) is a good port on the Black Sea, nearly opposite Sebastopol. In its bay, the Russian fleet, which had issued from the latter, November, 1853, attacked and destroyed thirteen Turkish vessels lying at anchor. **Erekli** or **Eregri** (2,000) has manufactures of morocco leather.

Sivas, stretching from the above-named province S.E., is crossed by the *Anti-Taurus* mountains.

Sivas stands in a fertile plain, and has considerable transit trade.

Tokat (30,000), a commercial town and a great agricultural depôt,

is situated in a romantic valley, and has carpet, woollen, linen, and silk trade. **Amasia** (18,000) has great trade in raw silk, and was once the capital of the kings of Pontus.

Trebizond lies along the S.E. shore of the Black Sea, and is generally mountainous.

Trebizond, one of the four great ports of Turkey in Asia (the others being Smyrna, Beyrout, and Bassora), is walled and entered by six gates. It contains eighteen mosques, and some Catholic and Greek churches. It has linen and cotton manufactures, and its commerce is very extensive.

Risah or **Rizeh** (25,000) near the mouth of the river of the same name, has trade in copper. **Batoum** (3,000), with the best harbour on the Black Sea, has trade in cattle and fruits.

Islands.—*Cyprus*, about 60 miles from the coast, extends from N.E to S.W., for 120 miles, in which direction two chains of mountains run, with a plain between, watered by the river *Pedia*. It has belonged in succession to the Persians, Greeks, Romans, Crusaders, and Venetians, from whom it was taken by the Turks in 1570. It forms a separate government. The soil is fertile, and produces cotton of the best quality, fruits and wines, with timber from the mountain sides. Game and fish are plentiful, but snakes and venomous spiders are too numerous to be agreeable. Rain is rare in summer—population about 200,000.

Nicosia is inhabited more by Greeks than Turks; is near the centre of the island; walled; has trade in carpets and leather.

Famagusta, on the S.E. coast, is a decayed port. **Larnika** is the residence of factors, and most of the consuls. It is a bustling place, with good trade. *Salines* is its port. **Cerini**, on the N. coast, has some trade with the mainland.

Rhodes, "the pearl of the Levant," is next in importance. It has an area of 420 square miles, and a population of 30,000. This island is traversed by a well-wooded mountain range in the direction of its length. The climate is delightful. Three-fourths of the inhabitants are Jews and Greeks, and the remainder Turks. In the middle ages it was the stronghold of the Knights of St. John.

Rhodes (10,000), the capital, is in the N.E. of the island. It was held by the Knights of St. John from 1308 to 1522.

The other islands are equally fertile, and enjoy a magnificent climate.

The chief are: *Cos*, very picturesque; *Samos*, renowned for its pottery; *Scio* or *Shios*, "the paradise of the Archipelago," whose inhabitants (100,000) were, in 1822, either all massacred by the Turks or sold as slaves; *Mytylene*, or *Lesbos*, once famous for its wine, is very fruitful; *Patmos*, a rocky islet, to which St. John was banished, and where he wrote the Apocalypse; its port is *Scala*. *Imbros* is well wooded.

The second great division is **Armenia** and **Kurdistan**, which border on Russia and Persia, the surface of the former being generally rugged and mountainous, and of the latter, a continuation of the highlands beyond the Tigris, which, as well as the Euphrates, has its source in this district. This country is subject to an E. wind called *sherki*, the terror of the inhabitants.

Erzeroom, or **Turkish Armenia**, stretches in the direction of N. and S., and includes Mount Ararat on its eastern border. It contains Lake *Van*, and is traversed from E. to W. by the Euphrates.

Erzeroom (40,000) (*Euphrates*) is a great centre of trade, and stands on a plateau several thousand feet above sea level. It has a severe winter. Morocco leather, swords, copper utensils, and carpets are the chief manufactures. It is a great halting place for caravans. It was taken by Russia, 1829.

Kars (12,000) is among high hills in the N. of the province. In 1855 it made, under General Williams and a Turkish garrison, a gallant but unsuccessful defence against the Russians. Bayazid (5,000) is near the pass of Mount Ararat. Van (20,000) (*L. Van*) has cotton manufactures. Erbil (*Arbela*) was the scene of the defeat of Darius by Alexander the Great.

Kurdistan lies to the S.W., and includes the provinces of *Kharput* and *Kurdistan*, the former traversed by the Euphrates and Mount Taurus, and the latter by the Tigris.

Kharput, in the Euphrates valley, is an important place.

Orfah (12,000) is the famous "Ur of the Chaldees" of Scripture.

Diarbekr (12,000) (*Tigris*) is surrounded by a wall, has handsome houses, but narrow streets. It has some trade with Syria.

Mesopotamia and **Irak-Arabi**: the former almost wholly included between the Tigris and Euphrates, exends from the mountains of Armenia to that portion of these two rivers where they begin to approach each other (hence its name); and some geographers consider it as extending to the Persian Gulf, and including Irak-Arabi. The former is also called *El-Jézireh*, and the latter *Babylonia*. This district is mountainous and undulating where it borders on Armenia, with forests of pine, oak, and chestnut on the hills. But the remainder is very level, and of alluvial soil near the banks of the rivers, but desert-like in other places.

Mosul (40,000) (*Tigris*) is the centre of great caravan trade, and was once famous for the manufactures of *muslins*, so named from the town. On the opposite side of the river are several mounds, which mark the ruins of ancient *Nineveh*.

Baghdad (60,000) (*Tigris*), a walled city, was once of great importance, and is now noted for cutlery. It has some fine shops and tastily-erected residences, a governor's palace, and 100 mosques. Bassora or Basra (70,000) (*Shat-el-Arab*) is the great emporium of trade with India. Its streets are dirty, but its commerce is very active. Caravans proceed to Aleppo and Baghdad, and vessels of 400 tons come up the Shat-el-Arab, on which it stands. Hillah (10,000) (*Euphrates*) stands among the ruins of ancient Babylon, one of the most magnificent cities of the ancients.

Syria, including **Palestine**, runs along the E. of the Mediterranean, and extending towards the *Euphrates*, having no well-defined eastern boundary. Along the coast is a narrow strip of lowland, a little inland a mountainous belt, and still further inland, a half-desert table-land, known as the 'Alah. The mountain range is divided into *Lebanon*, near the coast, and *Anti-Lebanon*, further inland on the northern boundary of Palestine. The two chief rivers are the *Orontes* and the *Jordan*.*

Syria touches the Alma Dagh mountains on the N. and the Mediterranean on the W. On the N.E. frontier is the Euphrates. The surface is very uneven, and the climate

* Syria is infested with a lawless lot of Bedouins, whose tribes are in constant feud with each other. They are a kind of desert marauders who plunder undefended travellers.

and productions vary greatly. While some of the highest mountain peaks are covered with snow, vines, oranges, and dates flourish along the coast. The corn is ripe in May. The summer sets in about June. Heavy rains fall in spring and autumn, and the trees only drop their leaves at the end of November. The blasts often rush down the mountain sides like an express train. Cotton, wheat, silk, tobacco, barley, maize, and timber are the chief productions. The minerals are confined to a little iron and coal. The chief trade is with Great Britain.

For administrative purposes Syria is divided into three provinces—*Haleb*, *Saida*, and *Scham*, or *Syria proper*, with Aleppo, Beyrout, and Damascus for their respective capitals. Haleb lies around the gulf of Iskenderoon, and includes the greater part of the Syrian desert, which borders on Arabia, where the boundary is undefined.

Haleb or Aleppo (80,000) stands on eight small hills, with a few bare rocky heights at a short distance, the snow-clad Taurus peaks to the N.W., and the Syrian desert to the E. of it. It has an old castle. Its houses are flat-roofed and rise in terraces along the hill sides. The Jews and Europeans have distinct quarters. The famous gardens are nearly twelve miles to the S.E., and consist of orchards and kitchen gardens, with some flower beds interspersed. It has cloth factories, dye works, soap and rope making.

Iskenderoon or Scanderoon (4,000) is the port of Aleppo, and though in a very unhealthy situation, has active trade. Antakia or Antioch (9,000) (*Orontes*) is surrounded by walls, beyond which the city in some places extends. It was called the "Queen of the East," from its ancient splendour; and here was first applied the term *Christian* to the early disciples. Damascus (150,000), like most eastern cities, with its mosques and minarets, and the gleaming white of its houses, shows imposingly at a distance. It was remarkable for sword blades. With streets narrow and dirty, it is very unhealthy. It has manufactures of gold and silver ornaments, sabres, silks, damasks, and cottons, with woollens. It is the residence of the governor, and the centre of great trade, the goods being carried on camels, mules, and donkeys. Pilgrims for Mecca halt here. Homs or Hams (20,000) (*Orontes*) has active trade. Beyrout or Bairout (32,000), at the head of an open bay, on the slope of a hill, is the port of Damascus. It is a clean, healthy town, which, though possessing only an open, shallow harbour, has good anchorage in the outer bay. Its trade has doubled during the last five years.

Jerusalem* (15,000), the scene of the most important events recorded in Sacred History, is situated about 2,500 feet above sea level, 18 *m.* N.W. of the Dead Sea, and formerly stood on four hills, Zion, Moriah, Acra, and Bezetha. On the E. rises Olivet, from which there is an extensive view. Modern Jerusalem stands in a great measure on the site of the ancient city, and is paved with large stones; streets narrow and rugged. This city was destroyed by the Romans under Titus, A.D. 70. In 614 it was captured by the Persians, and twenty-three years after by the Saracens. In 1099 it was taken by the Crusaders, but retaken, in 1187, by the Turks, to whom it has since belonged. Among the interesting places in the neighbourhood of ancient Jerusalem, may be named *Bethlehem*, the birthplace of our Saviour; *Bethany*, where He raised Lazarus from the dead, etc., etc.

Hebron or **Kirjath Arba** (8,000) (*Sheriah*) is, perhaps, the oldest city in the world, and contained the "Cave of Machphelah," the sepulchre of the patriarchs. David resided here for seven years before he became king of all Israel.

Palmyra contains the ruins of an ancient city, 120 miles N.E. of Damascus. It was called *Tadmor in the wilderness*, from its situation in the Syrian desert. **Tripoli** (15,000), at the foot of a spur of Mount Lebanon, is a good port. **Latakia** (7,000) is noted for its tobacco. **Saida** or **Sidon** (10,000, with a splendid harbour, had once extensive trade. **Nablous** (7,000), the ancient Schechem, stands at the foot of Mount Gerezim. **Gaza** (16,000) is a stopping place for caravans between Syria and Egypt. It was the scene of some of Samson's exploits and death, and was then a chief city of the Philistines. **Jaffa** or **Joppa** (7,000) (*Levant*), with trade in fruits and corn, was the place where St. Peter had the significant vision, and where Jonah embarked.

Akka or **Acre**, or "St. Jean d'Acre" (15,000) (*Levant*), stands on the N. side of the bay of Acre, which lies N. of Mount Carmel; it is best known for its sieges. It was taken by the Crusaders under

* PALESTINE is no longer a political division. It lay along the Mediterranean shore, S. of Mount Lebanon, and W. of the river Jordan, and was about 145 miles long and 50 broad. This, the "Holy Land," the "Land of Israel," ancient Canaan, contains at present only 15,000 Jews, out of a total population of 2¼ millions. In the days of its prosperity it extended beyond these limits, and from its extraordinary productiveness it is computed to have supported a population of 7 millions.

The first marked physical characteristic is the *Valley of the Jordan*, which widens from 5 miles in the N. to 20 at the river's mouth, where it opens upon the plains of Moab and Jericho. The channel of the river is 30 feet lower than the valley. The second feature is the central table-land, a continuation of Mount Lebanon, and containing Mounts *Hebron*, 2,840 feet; *Olivet*, 2,665 feet; *Gerezim*, 2,000 feet; *Tabor*, 1,905 feet. Carmel, the scene of the Tishbite's sacrifice, rises over the sea, "a short barren buttress." A third division is the *Littoral Plain*, along the sea coast, and a fourth the "Eastern Plateau."

At the birth of our Saviour, Palestine belonged to the Romans, and was divided into four parts: *Galilee*, in the N.W., bordering on the sea of the same name; *Samaria*, further S., on the W. of the Jordan; *Judea*, still more S., bordering on the W. coast of the Dead Sea; and *Perœa*, which was E. of the Jordan. It had been previously divided among the Twelve Tribes of Israel.

Richard I, in 1191, and held by the Christians 100 years, after which it was retaken by the Saracens. In 1799 Napoleon I. besieged it for sixty-one days, when it was successfully defended by a Turkish garrison, aided by some British sailors, under Sidney Smith. In 1832 it was taken by the Pasha of Egypt's son; but in 1840 it was bombarded by a combined British, Turkish, and Austrian fleet, under Admiral Stopford, and restored to the Turks.

Mountains.—The chief are: *Taurus*, S., and *Anti-Taurus* E. of the table-land of Asia Minor; *Lebanon*, "white mountain," and *Anti-Lebanon*, two rather insignificant ranges, near the E. coast of the Mediterranean; the Armenian mountains, including *Ararat*, *Olympus*, and *Ida*, diverge in many ranges.

Taurus runs along the S. of Asia Minor in an irregular line, consisting of several distinct ranges, distinguished by local names. *Anti-Taurus*, a somewhat similar system, runs N.E. until it merges into the mountains of Armenia, the highest point in the one being *Metdesis*, 11,700 feet, and in the other *Aryish-Dagh*, 13,100 feet.

Olympus (9,000 feet), covered with snow the greater part of the year, is of historical celebrity. Mount *Ararat* is held in veneration as the place where Noah's Ark rested. Mount Ida (7,200 feet) is about 30 miles from the site of ancient Troy. The chain called *Alma Dagh* is in the N.W. of Asia Minor.

Rivers.—The *Euphrates*, *Tigris*, *Shat-el-Arab*, *Kizil-Irmak* (flowing from Mount Taurus to the Black Sea), the *Sakaria* (into the same sea), the *Meinder* (into the Archipelago), the *Orontes*, and the *Jordan*, "the Descender."

The Euphrates, called by the ancients the "Great River," is formed of two streams from the Armenian mountains, the *Kara Su* and *Murad*. This river bursts through the Taurus, flowing 45 miles among the mountains. For some distance it forms the boundary between Syria and Mesopotamia. Its total length, including that of the *Shat-el-Arab*, is 1,600 miles. It overflows its banks every May.

The Tigris rises in the mountains of Kurdistan, flows S.E. to *Diarbeker*, then about 100 miles E. to *Til*, where it receives the *Bitlis*, now turns S.E. through wastes until it joins the Euphrates at *Kurna*, when the united streams take the name of *Shat-el-Arab*, which, after a course of 130 *m.*, enters the Persian Gulf by several mouths. Mosul, Baghdad, and the ruins of Nineveh, are also on the Tigris.

Lakes.—Van, Tiberias, Dead Sea, and Merom.

Lake Van is among lofty mountains; is salt; has pumice stone along its shores; is 70 miles long, with an area of 12,000 square miles. It is 5,000 feet above sea level.

Lake Tiberias, sea of *Galilee*, or lake *Gennesereth*, forms an expansion of the Jordan, and was frequently crossed by the Apostles. It is subject to quick and violent gales, which do not long continue. Its waters are fresh, and fish are abundant. It is 14 miles long and 8 miles broad, and 620 feet below sea-level.

The *Dead Sea*, or Lake *Asphaltites*, "Lake of Bithumen," has lofty rugged hills on the E., and less steep ones on the W. The waters are said to be so salt that men float on the surface like corks. The water contains no living thing. It is 46 miles long, and 8 to 9 broad. Its surface is 1,300 feet below that of the Levant. It is the most depressed sheet of water on the globe.

Coast Line.—The S. coast of Asia Minor has an irregular outline, with a bold surface to the sea, while on the W. nothing can be more irregular, with deep bays and projecting peninsulas. The Dardanelles is a strait 40 miles long, and in one place only two broad. The western shores of the Black Sea are low, though the mountains are not far from the shore; but as we proceed E., the high ground becomes very close to the shore, and very deep water near the land.

Inhabitants.—The inhabitants consist of various races, brought together by accident or conquest, hence possessing very few kindred features. The *Turks*, though the ruling race, are a small percentage of the inhabitants of Asia Minor and Armenia. As a rulo, they are honest, frank, temperate, and hospitable, though indolent. Closely allied to these are the *Turkomans*, who lead a nomadic life in Armenia and on the table land of Asia Minor. The *Arabs* constitute an important element of the population of Syria, Palestine, and Irak-Arabi. Closely allied to these are the *Maronites* (250,000), who occupy the hill country between Beyrout and Tripoli, and are so named from Maron, who converted them to Christianity in the fifth century. The *Druses*, a kindred tribe, live chiefly in Mount Lebanon. The Greeks are the bulk of the population in Asia Minor; the Caucasians dwell in Armenia, and the Jews are spread all over the empire. The *Armenians*, about 2 millions, are wealthy and influential. The *Greeks*, about 1½ millions, dwell mostly in towns near the coast.

ARABIA.

Arabia is essentially a region of steppes and deserts, with a fertile district near the coast. Its length, from north to south, is about 1,500, and its breadth 1,000 miles. The western portion, lying along the Red Sea, belongs to Turkey, and is called *Hedjaz*, or the "Land of Pilgrimage."

Though this country is usually divided into *Petræa* in the N.W., *Felix* in the W. and S.W., and *Deserta*, which includes the whole of the little-known interior, yet the following is a more approved division: (1) *Hedjaz* (3,250,000); (2) *El Hassa*; (3) *Yemen* and *Asïr* (2,252,150); (4) *Hadramut* (1,550,000), the region along the southern coast; (5) *Oman* (1,350,000), the kingdom of Muscat; (6) *Nedjed* (the central desert region) and *Bahrein* (2,350,000), the country of the Wahabites.

This large peninsula much resembles Africa in its desert character. A plateau seems to rise in the interior, whose greatest elevation is 8,000 feet, bordered on the west by a mountain-chain or highland, running along parallel to the Red Sea, and apparently a continuation of Mount Lebanon. From the Straits of Babel-Mandeb another chain runs N.E. to Oman. In the N.E. of the country there is a large tract, consisting of shifting sands.

The climate is hot and dry; in many places rain and vegetation are almost unknown. The peninsula of Sinai, in the N.W., contains the mountains Sinai and Horeb, so frequently mentioned in Scripture; and further N. is a desert district, called *El-Tih*, or "The Wandering," evidently so named from the wandering of the children of Israel in this wilderness.

TOWNS.—Mecca (50,000) ranks first, as the "holy city" of the Mussulman world, having been the birthplace of the prophet Mahomet. It is situated near the Red Sea, and is greatly resorted to by pilgrims. Jidda (20,000) is its port, and has active trade.

Medina (15,000), directly N. of Mecca, is the place where Mahomet died, A.D. 632, and contains his tomb; hence a place of pilgrimage. Yambo, 130 miles distant, serves as its port.

Sana (30,000), in the south, is the capital of the Turkish province, *Yemen*. *Mocha* (7,000), known for the excellence of its coffee, is a little port north of the strait.

Oman is an independent state, whose sovereign is called an Imaum, who also has possessions on the E. coast of Africa.

Muscat (50,000), its capital, is a flourishing commercial town in the south, with trade in pearls, coffee, dates, myrrh, raisins, and amber.

Bahrein, an island in the Persian Gulf, is an excellent station of the pearl fishery, in which more than 1,000 vessels are engaged in the season. *Mendina* is the chief fishery station.

Productions, etc.—The year is divided into three seasons—winter, spring, and summer: the first is very rainy and the last exceedingly

hot. Arabia is best known for its horses, dates, drugs, coffee, and gums There is no important river in it; most of the streams, which are swollen in the rainy season, becoming dried up in the summer.

BRITISH POSSESSIONS.

Aden* (20,000), called the Gibraltar of the East, stands 100 miles east of the Strait of Babel-Mandeb, on a strongly-fortified promontory. It is an important coaling station in connection with the new route to India, and has belonged to Britain since 1840. Perim, a small island in the strait, also belongs to Britain—occupied, 1857.

PERSIA, OR IRAN.

Persia, called by the natives *Iran*, occupies the table-land (from 3,000 to 6,000 feet high) between the Caspian Sea and the Persian Gulf, extending from 26° to 40° N. latitude, and from 44° to 61° E. longitude.

It is bounded on the N. by Turkestan, the Caspian, and Russian Armenia; on the E. by Afghanistan and Beloochistan; on the W. by Asiatic Turkey; and on the S. by the Persian Gulf† and Arabian Sea. The surface varies much, from great fertility to desert sterility, the latter feature predominating. Near the seas the surface is low, and the temperature very hot in summer. The lowland between the Caspian and the Elburz, which is the N. boundary of the central plateau, is very luxuriant. In the W. the country is also rich in the valleys: but in the E. lies a salt desert which is irreclaimable. Persia suffers much from scarcity of water.

The following are the usual divisions of Persia :—

Provinces.	Towns.
1 Irak-Ajemi, -	Teheran, Kashbin, Kashan, Ispahan, Hamadan.
2 Azerbijan, -	Tabriz, Urimiah, Miana.
3 Ghilan, -	Resht, Lahijan.
4 Mazanderan, -	Saree, Balfrush.
5 Khuzistan, -	Shuster, Dizful, Hawiza.
6 Farsistan, -	Shiraz, Bushire.
7 Laristan, -	Lar, Tarum.
8 Kerman, -	Kerman, Gombroon.
9 Khorasan, -	Meshed, Astrabad.
10 Luristan, -	Kermanshah.

* Or, Eden (Paradise), so named by the Arabs on account of its agreeable climate and delightful situation.

† *Karrack*, an island in this gulf, was occupied by our troops in 1838 and in 1856.

1. Irak-Ajemi is S. of the Elburz mountains, and consists of desert table-lands in the centre, with the desert of *Zarang* in the N.E. The rivers are here lost in the sandy wastes. In the W., among the hills, the scenery is beautiful, and some of the streams even reach the Tigris. This region produces peaches and figs.

Teheran (120,000), near the southern base of the Elburz, stands seventy miles from the Caspian. It is surrounded by a wall, and entered by four gates, and contains many bazaars. It has been the capital since 1788; has trade in iron, tapestry, etc.—is almost deserted by its inhabitants in the summer heat for cooler haunts. Ispahan (100,000), in the S., on a plateau 4,000 feet above sea level, was once a very populous city. Its stone and seal cutters are the best in the world. Hamadan, in the W., is a caravan centre between the capital and Baghdad. It is the ancient *Echbatana*. Kashan is a centre of trade between the capital and Ispahan, where glazed tiles are manufactured. Kashbin (90,000), in the N., is a good commercial city, celebrated for grapes and nuts.

2. Azerbijan, the "Granary of Iran," lies in the N.W., being separated from Caucasia by the river Aras, and containing the large lake Urumiah. The surface is well diversified.

Tabriz (110,000) is surrounded by gardens and orchards, and is a seat of transit trade with Europe. The climate is extreme, varying from great heat in summer to intense cold in winter. Urumiah, near the W. shore of the lake of same name, is a considerable town. Miana, a small town near the S., is remarkable for the Persian poisonous bug. Maragha has greatly declined.

3. Ghilan is a very small province on the S.W. of the Caspian; is low and swampy.

Resht (50,000) (*Caspian S.*) is chiefly engaged in trade with Russia, but is very unhealthy. It has silk factories.

4. Mazanderan lies between the Caspian and Elburz range. Here orange, citron, and cypress trees abound.

Sari (20,000) is a flourishing town. It has good streets and houses.

Balfrush (70,000) is a straggling town, which has suffered from its unhealthy situation. It has large bazaars and trade with Russia.

5. Khuzistan borders the Persian Gulf on the N. and is drained by the *Karun* and the *Kerkah*, both tributaries of

the Shat-el-Arab. The productions consist of rice, cotton, sugar, and indigo.

Shuster, on the Karun, was nearly depopulated by the plague in 1832.

6 & 7.—**Farsistan** and **Laristan** border the Persian Gulf on the E. shore, being separated from each other by the *Merkhmeh* mountains. The surface gradually rises from the shore. Here is lake *Bakhtegan* (in Farsistan), from which much salt is procured.

Shiraz (35,000), the capital of the former, in a beautiful district, has trade in otto of roses and salt. Bushire (20,000) (*Persian G.*), "Father of Cities," is a good port, with great intercourse with India. It was taken by the British, 1857; and the telegraph passes through it. Lately it has been desolated by a famine. Lar (10,000) is near the centre of the province.

8. **Kerman**, once a kingdom, borders on Beloochistan, and contains a surface very much a blighted wilderness. It is infested by robbers.

Kerman (30,000), in one of the few fertile tracts of the province, is walled, and has some manufactures. Gombroon (*St. of Ormuz*) is a port of less importance.

Khorasan, much the largest province, occupies the N.E., and has an elevated surface, interspersed with valleys.

Meshed (50,000), on the Tejend, in the N.E., is a holy city of the Mahometans, and has manufactures of jewellery, sword-blades, and gold work.

Astrabad (20,000) is in an unhealthy position, near the S.E. of the Caspian. Yesd (40,000), in the S.W. of this province, is an important caravan seat.

Luristan lies in the W., is bordered by hills, and contains a valley through the centre of which the *Kerkah* runs. This province extends N. almost to L. Urumiah.

Kermanshah (30,000) is modern, well-built, and thriving, with trade in fruits, carpets, cottons, and swords.

Mountains.—The mountains of Persia are, properly speaking, continuations of the Caucassian, Taurus, and Armenian systems, which enter on the north-west.

The *Elburz*, running parallel to the Caspian, from 15 to 20 miles distant, is a continuation of the first-named. Many of its peaks are covered with snow, and the highest, Mount *Demavend*, is 21,500 feet high. The *Taurus* enters near L. Van, and, turning S.E., ramifies into many parallel chains. On the N., the *Elburz*, on the W., the *Zagros*, on the S., the *Kerman*, are the boundaries of the plateau, which extends to Afghanistan on the east.

Rivers.—The chief are the *Karun*, and the *Kerkah*, flowing into the Shat-el-Arab; the *Uzun* and *Kizil-Aras*, flowing into the Caspian.

Lakes.—*Urumiah* is 80 or 90 miles long, with a mean breadth of 25 miles. The water is clear and salt. No fish can live in it, and its specific gravity is so great that it is little affected by the winds. *Bakhtegan* and *Shiraz* are the other chief lakes.

Climate, etc.—No country in the world has a more varied climate and a drier and purer atmosphere. That of the lowlands near the Gulf consists of a good winter and spring, a tolerable summer, with an excessive autumn heat. That of the plateau becomes more temperate as we proceed north, but in the desert region heat in summer and cold in winter are intense. The lowlands on the borders of the Caspian, with mild winters, have hot summers. Long continued droughts are often injurious, and occasion periodic famines.

Manufactures consist of cotton and woollen fabrics, shawls, carpets and felts. Silk is produced in every province, particularly in the N., and is made into satin, sarcenet, brocade, and velvet, which are sent to Turkey and Russia. Drugs, dried fruit, wine, and horses are exported to India. Caravans carry on trade in the interior. Opium has been extensively raised of late years.

Inhabitants.—The population is either settled or nomad, the former being generally dishonest, servile, and cunning. The nomads are Kurds, Arabs, Luurs, and Turkomans, each tribe being ruled by a chief, like the ancient clans in the highlands of Scotland. The Turkomans are the ruling race of the country, and are courageous, manly, and independent in spirit, but inveterate robbers, and cruelly oppress the lower classes.

BELOOCHISTAN.

Beloochistan comprises the following seven divisions, under the Khan of Kelat—*Cutch Gundava*, *Sarawan*, *Kelat*, *Jhalawan*, *Lus*, *Mekran*, and *Kuhistan*. It extends from Persia to the mouth of the Indus, and includes tracts of

sandy deserts, with ranges of rocky mountains. The heat from March till November is unbearable. From India this country is separated by the *Hala* range, beyond which it extends in the N. The S. of the country, thinly peopled, consists of a series of terraces descending to the sea, while the N. is a series of parallel ridges of considerable elevation.

Kelat (20,000), the capital, is enclosed by a mud wall, and stands 8,000 feet above sea level. Almonds, melons, and dates are the chief productions of the neighbourhood. This city was in 1839 taken by the British. Gundava is the winter residence of the khan or king.

Generally speaking, the *Beloches*, who speak a corrupt Persian dialect, dwell in the W. The *Brahoes*, who speak a dialect of Sanscrit origin, principally dwell in the E.

Alexander the Great led his army, in his return from India, through this country. The *Bolan Pass*, 6,000 feet high, is the entrance from India. The *Gundava Pass* is more to the south.

AFGHANISTAN.

This, the "Country of the Afghans," lies between India and Persia, extending about 700 miles from E. to W., and 500 from N. to S. It was once a monarchy, but now consists of three almost independent states, with capitals of the same names—*Cabool*, *Herat*, and *Candahar*—*Seistan* is tributary to Herat, and *Sewestan* to Candahar. *Badakshan*, a dependent khanate, situated on the head waters of the Oxus, consists of an elevated district known on account of its ruby mines; *Wakhun* is a valley state in the same locality; and *Balkh*, a smaller state. Afghanistan lies between the parallels of 29° and 37½° N. latitude, and between 62° and 73° E. longitude.

It consists of a table-land, with the river Indus on its E. border. The mountains, which are offshoots of the Himalayas, sometimes rise to 18,000 or 20,000 feet—the *Suliman* mountains forming a barrier towards India, rise to 11,300 feet a little S. of the *Gomul* pass. The *Cabool* river presents an opening to the Indus, which it joins, and drains the E. of the country. This valley is named from W. to E. *Kabool*, *Jelalabad*, and *Peshawur*, the first about 36 miles long, and the second 40 miles long. The *Khyber* mountain, over which is the Khyber pass (25 miles long, at a height of 3,373 feet), through which

the British army passed, 1842, under terrible loss, is between Jelalabad and Peshawur. The plain of *Peshawur* is about 60 *m.* long, with gentle slopes and ravines. These regions are very rich in fruits. N. of the Cabool basin is the *Hindoo Koosh*, running N.E. and S.W. The *Bamian Pass* is between this mountain and the more westerly range *Koh-i-Baba*, and is 8,496 feet high. The river *Helmund*, running into L. *Hamoon* or *Zurrah*, drains the W. of the country. It is 700 *m.* in length. Rafts are floated down it from Jelalabad. The *Gomul* is lost by absorption in its course. The climate is very various. Fine fleeced sheep and goats are the most valuable stock. Wolves infest the mountains.

TOWNS.—Cabool (30,000) (*Cabool*) has a large bazaar. In 1839 it was entered by the British troops, who, in 1842, were compelled to retreat in the depth of winter, and several officers and men were murdered by the natives.

Jelalabad (3,000) (*Cabool*), 100 *m.* E., is famous for a gallant defence, in 1842, by a British force under Sir R. Sale, who was relieved by Sir Geo. Pollock. Ghuznee or Ghizni is a reduced town, captured by the British in 1839 and again in 1842. It is 7,000 feet above sea level. Candahar (80,000) has manufactures of arms, silks, and woollens, and is a caravan station between Persia and India. Herat (20,000), a walled town in the N.W., stands in a beautiful valley.

The Pamir table-land is 10,000 ft. high, 180 miles long, and 100 broad, containing the sources of the Oxus and the Indus, and covered with snow 5 months in the year.

INDIA, OR HINDOOSTAN.

India, or Hindoostan, is the central peninsula of Asia.

On the N. are the Himalaya mountains; in the N.W. it is separated from Afghanistan by the *Suliman*, and from Beloochistan by the *Hala* mountains. Its length from Bulti, in Cashmere, to Cape Comorin, is about 2,000 *m.*, and its breadth, on the 27th parallel, is 1,180; but from the mouth of the Indus to Assam is 1,500 *m.*

Surface.—Hindoostan naturally falls into two divisions, peninsular and continental, the latter being situated N. of a line from the mouth of the Indus to that of the Ganges. There are five physical regions: (1) The great mountain barrier on the N., already described; (2) the plain of the Ganges and Indus, the former exceedingly fertile, the latter, in most places, exhibiting extreme sterility; (3) *Malwah*, a triangular-shaped plateau, extending from Delhi to the Taptee valley and the Sautpoora mountains; (4) the *Deccan*, bordered by the Ghauts on the E. and W., the Neilgherri on the S.; the N. boundary is not exactly determined; (5) the maritime plains along the S.E. and S.W.

coasts. The *second* district is unusually level, no elevation rising evenly to more than 1,200 feet. It is widest in the W., where it extends from the *Suliman* to the *Arravulli* mountains, running N.E. from the Runn of Cutch. In the E. it extends from Cuttack, on the Mahanuddy, to Chittagong, on the N.E. of the Bay of Bengal. In the centre it is considerably contracted. The *N. plateau* extends from the Arravulli on the W., to the Sautpoora mountains, and merges into the plain from Delhi, along the banks of the *Jumna*, and includes the *Vindhya* mountains in the S. Its rivers, with the exception of the *Nerbudda*, seek the Ganges.

The *Deccan* attains a mean elevation of 2,000 feet, and has a general slope towards the east. The *fifth* region contains several spurs of the W. Ghauts, which sometimes descend to the shore. On the *Coromandel* coast the rivers have large deltas, and the *Carnatic* is one of the richest districts in India.

OUR INDIAN EMPIRE.

Our great Indian empire has a kind of dual government —a Secretary of State, assisted by a council of 15 members sitting in London, and the Governor-General,* who, with a council of five members, presides at Calcutta. The popular division consists of the presidencies of Bengal, Madras, and Bombay. But for administrative purposes British India is divided into 12 provinces, which are subdivided into 53 divisions or commissionerships, consisting of 231 "Revenue and Judicial" districts, again subdivided into 1,114 executive subdivisions; the village, which is about one-fourth the size of an average English parish, being the unit. About three-fifths of the whole is directly under our rule, yet we derive little direct pecuniary advantage from this great country, though its present revenue amounts to fifty millions a year. It is, however, a great training-ground for youthful statesmen and politicians, a grand market for home manufacturers, an extensive trading depôt, but, above all, India is a competitive field for the redundant literary population of the mother country, for the development of which England has unhesitatingly advanced her capital and staked her credit.

* He holds the most lucrative post under the British crown. It is worth £40,000 a year, including salary and perquisites.

PRESIDENCY OF BENGAL.

Chief Divisions.	Towns.
The Lower Provinces,	Calcutta, Serampore, Patna.
The North-west Provinces,	Agra, Cawnpore.
Oude,	Lucknow, Oude.
The Punjab,	Lahore, Mooltan, Delhi.
Nagpoor, etc.,	Najpoor, Chanda.

DEPENDENT STATES.

Chief Divisions.	Towns.
Hyderabad, Berar,	Hyderabad, Aurungbad.
Holkar's and Scindia's Dominions,	Indore, Gwalior.
Dhar, Bhopal, etc.,	Dhar, Bhurtpoor.
Rajpootana,	Jhodpore, Boundee.
Bundelcund and Rewah,	Band, Rewah.
Bhawulpore,	Bhawulpore.
Sikh States,	Puttiala.

Bengal is a flat district, well watered by rivers, which swell in the rainy season, leaving a rich alluvial deposit on the country near. Shallow lakes are numerous. *Rice* is the principal food, and the ordinary grain crops, beans, peas, millet, poppies for opium, fruits and vegetables, are also produced. Silk, tea,* rice, and cotton are largely cultivated. It is governed by 10 commissioners.

The **Lower Provinces** embrace the lower course of the Ganges, and include *Bengal Proper*, *Behar*, higher up the river, with a part of *Orissa*,† which is low and sterile in the coast districts.

Calcutta (600,000) (*Hooghly*), the capital of British India, is about 00 *m.* from the sea. It is divided into two parts: the one inhabited y Europeans and native merchants, is beautifully laid out, with ide streets and handsome public edifices; the other, "Black Town," s crowded with inhabitants, but it is very filthy. Ships of a large ze can come up to the town, which is defended by Fort William, ne of the strongest fortresses in the world. In 1756 the town was ken by Surajah Dowlah, and 146 British soldiers stuffed into a nall square room called the "Black Hole," of whom 123 were ffocated before the following morning. The commerce is very ensive. The jute and cotton factories number nearly twenty; and it educational establishments are liberally patronized.

*The cultivation of tea is rapidly spreading. We pay India above two millions forthe tea she sells us at home.

†*Orissa* is about as large and as populous as Scotland, of deltaic formation, wih an increasing area, subject to destructive floods, and disastrous droughts.

Plassy, to the N., 70 *m.* distant, is memorable for the victory of Clive, 1757, which overthrew Surajah Dowlah, and laid the foundation of the Indian empire. Serampore (*Hooghly*) was purchased from the Danes, 1845. Moorshedabad* (150,000) (*Ganges*), a thriving coral town, has silk, carpet, and embroidery making. Monghyr (30,000) (*Ganges*) has hardware manufactures. Dacca (60,000), on a branch of the Brahmapootra, once the seat of great muslin manufactures, has some cotton weaving. Patna (200,000) (*Ganges*), 370 *m.* from Calcutta, is enclosed by a brick wall, has brisk trade in *rice*, opium, indigo, wheat, and saltpetre, and was the scene of the murder of 200 Englishmen by the Nabob, 1763. It is the chief town in Bahar. Gaya (40,000) is a place of pilgrimage. Behar or Bahar (25,000) has fallen into decay. Cuttack (30,000) (*Mahanuddy*) is a decaying town, with manufactures in brass. Juggernaut (near *Chilka L.*), on the coast, is a place of pilgrimage, and was long notorious for its barbarous rites.

The N.W. Provinces include the upper and middle Ganges. They consist of seven divisions, under commissioners: *Agra*, *Allahabad*, *Benares*, *Meerut*, *Rohilcund*, *Kamann*, and *Jhansi*. The surface in the N. is sandy, and much less moisture falls than in Bengal. Several canals have been cut to assist irrigation—the grand trunk is 350 miles long, and its offshoots 460.

Agra (142,661) (*Jumna*) stands in the midst of a sandy plain, and contains some splendid specimens of Saracenic architecture. The fortress, or residency, was held during the Indian mutiny, though the insurgents held the town. Benares (175,000) (*Ganges*) is midway between Calcutta and Delhi (400 *m.* from each). The houses are close together, and the streets narrow. It is a holy city of the Hindoos, and a great seat of trade in diamonds from Bundelcund, shawls from the N., and muslins from the S.E. It is the residence of the court of circuit, and has an English college. Allahabad (60,000) is, from its position at the confluence of the Jumna with the Ganges (70 *m.* from Benares), held sacred by the Brahmins, who flock to it in crowds as pilgrims. It has a powder factory and beautiful military barracks. It is the capital of the N.W. Provinces. In the mutiny of 1857, nine young officers, eight other officers, and more than thirty Europeans, were here massacred by the native troops. Cawnpore (113,000) (*Ganges*), chiefly built of brick, a military station, is one of the most important central cities; and, unless when clouds of dust envelop it in the hot season, is a pleasant residence. Here were perpetrated, in 1857, the brutal massacres of Nanah Sahb when 200 British women and children suffered the most cruel butchery, and whose bodies he caused next day to be thrown into a well

* *Abad* = almost the same as our *abode* or *home*.

Hurdwar (100,000) (*Ganges*), near the base of the mountains, is a good commercial mart, where numbers of Hindoo pilgrims assemble. It has a large annual fair. Jhansi (20,000) has a considerable trade and a large population. The Europeans were all murdered here in 1857. In 1858 Sir H. Rose took it by storm. The manufacture of bows and arrows is its chief industry. Feruckabad (130,000) is a walled town, which has active trade with Cashmere. Mirzapore (70,000) is a well built town, with trade in silk and cotton, and a carpet manufactory. Meerut (30,000) is the headquarters of the Bengal artillery. Here the mutiny first broke out, 10th May 1857. Bareilly (106,000) is an important manufacturing town, producing carpets, hardware, embroidery, and cabinet works. Westward is Simla, the favourite summer residence of the governors-general. It is 7,866 feet above sea level, and has cool bracing air. Calpee (20,000) has manufactures of paper and sugar-candy. It is fortified, and commands this part of the Jumna. Almora (10,000) is 5,300 feet above sea level, on the side of a mountain.

Oude or Oudh, annexed by Lord Dalhousie, 1853, is situated between the Ganges and Nepaul, and is well watered by streams from the mountains. Its area is about 25,000 square miles, and its population above 11,000,000. The surface is a plain, sloping from N.W. to S.E., and drained by the *Gumti*, *Gogra*, and the *Raptee*. It produces cereals, mustard, rice, wheat, maize, sugar, tobacco, soda, salt, and cotton. The inhabitants, mostly Hindoos, are warlike, and chiefly supplied the notorious Sepoys in the late mutiny. It has four commissioners.

Lucknow (300,000) (*Gumti*) is surrounded by a well-wooded country. Its large and fantastic palaces are the chief attraction. The site of the city is extensive, and the domes and minarets rise among green trees of glorious foliage. In the mutiny of 1857, the garrison defended the residency under Sir H. Lawrence and Sir H. Havelock, for 87 days, against 60,000 native troops, until relieved by Sir Colin Campbell, who then made one of the most masterly retreats on record. It has considerable transit trade by rail and river.

Oude (8,000) (*Gogra*), the capital of the late kingdom, is now much decayed. Fyzabad (90,000) (*Gogra*) is also rapidly declining. Its gardens are celebrated for grapes and other fruits.

The Punjab, an extensive territory in the N.W., has belonged to Britain since 1849—so named from the "five rivers" which water it. Spurs from the Himalayas penetrate in the N., and enclose nice valleys; but in the S. the

only elevation is the *Salt Range*, between the Indus and the Ghelum, rising to 2,000 feet. On the borders of the rivers the soil is fertile, elsewhere sandy and sterile. Wheat, rice, barley, maize, indigo, cotton, tobacco, and opium are grown. Two-thirds of the population are Moslems, one sixth Hindoos, one sixth Sikhs. It exports wheat of the best kind through Calcutta in large quantities.

Lahore (100,000) (*Ravee*) is a large and important city, surrounded by a brick wall 7 miles in circumference. It contains many ruins, as well as numbers of mosques and Hindoo temples. It came into our possession in 1849, and is now a railway centre, and is the religious capital of the Sikhs.

Delhi (170,000) (*Jumna*), long the capital of the Mahometan empire in India, stands about 270 *m.* from Cawnpore. The present city was built in 1631, has houses of brick, many palaces, and mosques with gilded domes. An extensive inland trade, and some manufactures of scarfs, etc., are carried on. In 1857 the mutineers seized the city, in which they were then besieged: it was retaken by the British, 20th September following. Here on 1st January 1877, Queen Victoria was proclaimed Empress of India, with great pomp.

Amritsir (90,000) has manufactures of cottons, silks, and shawls. Ferozepore (*Sutlej*) is an important military station. In its neighbourhood were fought the battles of *Ferozeshah*, *Moodkee*, and *Sobraon* (*Sutlej*) (1846); and a little N., *Gujerat* and *Chillienwallah*, the former gained by Lord Gough, 1849. Mooltan (80,000) (*Chenab*) was taken after an obstinate struggle, 1849. It has manufactures of silks, shawls, and carpets. Peshawur (50,000) (*Cabool*), near the entrance to the Khyber Pass, is a strong frontier military position, with increasing transit trade. Atak or Attock (*Indus*) is the place where most of the armies invading India crossed the river, including that of Alexander the Great. Murri (*Jhelum*), on a hill, is the resort of the governor and higher officials during the hot season. Derbend (*Indus*) is the most northern town in India.

The central Provinces are—Nagpoor, almost wholly within the Deccan, and in the S.E. much of its surface is covered with jungle—the haunt of numbers of tigers. Sagar and Nerbudda give much coal. Ajmeer occupies a high ground.

Nagpoor (10,000), "the town of serpents," has trade in arms, silk, and cutlery. The railway extends to it.

Ajmeer (34,763) is an important town on the E. of the Aravulli mountains, surrounded by a stone wall, and entered by five gates. In October there is a large annual fair.

Hyderabad or **Haiderabad**, a kingdom under a Nizam, or ruler, embraces much of the *Deccan*, and has the river Kistna its S., and the Godavery its N.E. boundary, the latter traversing the whole district from W. to E. The slope of the country is to the E.; the soil is admirably adapted for cotton, maize, and mustard. The Nizam has been a British ally since 1768. **Berar**, on the W., produces much cotton. It has about 10,000 square miles of forests.

Hyderabad (20,000) (*Massy*)—"Lions' Town"—is in a central position. Its artizans are noted for their skill in diamond-cutting, the district containing many precious stones. Beautiful gardens adorn the environs of this city.

Secunderabad contains the British cantonment. Golconda, seven miles W., contains a fortress in which the Nizam's treasures are kept. It was once renowned for diamond-cutting. Aurungabad (50,000) is a declining town in the N.W. Assaye, is a small village at which Wellesley defeated the Mahrattas, 1803.

Indore and **Gwalior**, or *Holkar's* and *Scindia's* dominions, are several detached districts N. of the Vindhya hills; and in the valley of the Nerbudda, *Dhar* and *Bhopal*. *Bundelcund* and *Rewah* are in the same neighbourhood; and more N. are *Dholpoor* and *Bhurtpoor*. *Rampoor* is enclosed by Rohilcund.

Indore (15,000) is a rather mean-looking town with little trade. Mhow is a small town in the same state, and a British cantonment.

Gwalior (50,000) is the capital of Scindia, and is well-fortified. It was the scene of an active insurrection in the late Indian mutiny. Oojein or Ujein (120,000) is one of the seven sacred cities of the Hindoos. Dhar is the capital of a small princedom of the same name. Bhopal, on the N. side of the Vindhya hills, is surrounded by a decayed wall. Bhurtpoor (100,000) was the scene of an obstinate attack of Lord Lake, 1805. It has great trade in salt.

Rajpootana is about the size of the United Kingdom. It embraces most of the Indian desert, the Aravulli mountains, and some of the *Malwah* plateau. It is almost rainless, and unless on the banks of the rivers sterile. In the desert

nothing but droves of wild asses, foxes, antelopes, and desert-rats are met. It is watered chiefly by the *Loony* and affluents of the Jumna.

Joudpoor (100,000) (*Loony*) is a fine town, occupying a strong position.

Jeypoor (50,000) is an elegant city, with a native observatory.

Bhawulpore extends along the banks of the *Gora*, a river formed by the junction of the Beas and Sutlej. It is extremely barren, unless on the river borders, where indigo, rice, sugar, tobacco, and fruit are raised in considerable quantities. Sikhim is a small state, separating Nepaul from Bhotan—capital, *Tumloong*.

BOMBAY PRESIDENCY.

Divisions.	Towns.
North and South Concan,	Bombay, Tannah.
Poonah, Ahmednuggur,	Poonah, Ahmednuggur, Sattara.
Khandesh and Goojerat,	Surat, Baroche, Ahmedabad.
Scinde, or Sind,	Hyderabad, Tattah, Kurrachee.
DEPENDENT STATES.*	
Goojerat and Guicowar's Dominions,	Baroda, Cambay.
Cutch,	Bhooj, Mandavi.
Kolhapur,	Kolhapur.

Bombay, the smallest presidency, is on the western side, with a coast-line extending from Canara, in the S., to the mouths of the Indus, with an inward reach varying from 200 to 300 miles. With the exception of Scinde, which borders on Beloochistan, Bombay may be divided into three physical regions: (i.) the two Concans, between the Ghauts and Arabian Sea, which have a very high temperature,

* The splendour of the native princes, their glittering diamonds, their untold gold, their very guns manufactured out of the precious metals, represent too much the toil and privation of a helpless race, whose industry serves more for the luxury of the prince than the amelioration of the people.

sometimes reaching 115°; (ii.) the E. slope of the same mountains, frequently subject to droughts; (iii.) the district around the mouths of the rivers Taptee and Nerbudda, an alluvial tract. This presidency includes the best cotton fields of India, with an increasing exportation. Many of the *Parsees*, descendants of the ancient fire-worshippers of Persia, whose mechanical skill and mercantile probity and industry are well known, are located near the coast.* The exports consist of cotton, opium, coffee, pepper, ivory, and guns. The area is about the same as that of the United Kingdom, and the population about 12,000,000.

Bombay (650,000)—from two Portuguese words (*bom-bahia*) meaning good harbour—stands on a small island of the same name, which is about nine miles long, in a rather picturesque position, with the mountain range of the Ghauts in the distance behind. It is strongly fortified, and many of the houses have trees and shrubs with small gardens attached. Shipbuilding is carried on, and its commercial enterprise is of the first magnitude. During the last few years the exports of cotton have greatly increased. Its commerce is very extensive.

Poonah, with *Sattara*, etc., lie inland, and enjoy a more temperate climate than the coast. The district is chiefly watered by the *Kistna* and its tributaries.

Poonah (80,000) (*Muta*) formerly the capital of the Mahratta empire, stands in a dry plain, about 100 *m.* by rail from Bombay. It contains a Sanscrit college, and is the chief military station of the Deccan.

Ahmednuggur (20,000) is about 70 *m.* N.E., and is an important town. It was taken by Wellesley, 1803. **Sattara**, about 115 *m.* S. from Bombay, is also an important military station.

Khandesh, embracing the middle course of the *Taptee*, and **Goojerat**, containing this river's mouth as well as that of the Nerbudda (and enclosing the gulf of Cambay), produce much of the Indian cotton from their rich alluvial soil.

* They worship the sun, and prostrate themselves on the sea-shore at sunrise and sunset. They were driven from their own country by the Mahometans, and not a few have attained to positions of eminence.

Surat (100,000), at the mouth of the Taptee, is declining. It has an hospital for aged and maimed animals. Here the East Indian Company established their first factory.

Baroche (30,000) is an ill-built town near the mouth of the Nerbudda.

Scinde embraces the lower part of the Indus valley, where rich crops of rice, barley, etc., with sugar and indigo, are raised. The remaining surface includes part of the great Indian desert. The inhabitants consist of a larger proportion of Mahometans to Hindoos than in any other province.

Hyderabad (20,000), the capital, stands on an eminence, and has manufactures of arms. Meanee is a few miles distant, where Sir. C. Napier defeated the Beloches in 1843.

Kurrachee (20,000), the principal port, and now the principal telegraph station, is rapidly rising into importance.

Goojerat, one of the gardens of India, a part of which has been annexed, contains the peninsula between the gulfs of Cutch and Cambay. **Cambay** is a small native state. **Cutch** is subject to earthquakes. **Kolapore** and **Sawunt-Warree** are small native states.

Baroda (100,000) is a good trading city, but not increasing in importance. Cambay, on the estuary of the River *Myhe*, has manufactures of stuffs, chintz, and silk, and is a small seaport.

Bhooj, in the plain, is the capital of Cutch, and has manufactures of gold and silver.

MADRAS PRESIDENCY.

Divisions.	Towns.
The Carnatic,*	Madras, Arcot, Tanjore.
N. Circars,	Ganjam, Masulipatam, Coringa.
S. Canara and Malabar,	Mangalore, Cannanore, Calicut.
Mysore,	Mysore, Bangalore, Seringapatam.
Coimbatore,	Coimbatore.
Coorg,	Mercara.

*The Carnatic, a familiar, though not a geographical term, extends from Cape Comorin as far as the mouth of the Kistna. The *Malabar coast* extends along the W. shore from Cape Comorin as far N. as Mangalore; and the *Coromandel coast* runs on the E. and the term is applied to the sea only.

DEPENDENT STATES.

Divisions.	Towns.
Cochin, - - -	Cochin.
Travancore, - - -	Trivandrum.
Jeypoor, etc., - - -	Jeypoor.

Madras embraces the whole south of the Indian peninsula, including the E. and W. coasts, with the exception of the French possessions. On the E. its N. limit is the *Chilka* Lake. "The opposite coast regions remarkably contrast in their climate. On the E. side there is more continuous and intense dry heat than in almost any other part of India. At the midnight hour the thermometer is not unfrequently above 100°. Woodwork shrinks and warps; nails are loosened, and fall out of doors and tables; glass globes and shades are cracked."* On the W. side, however, the excessive humidity is the chief climatic characteristic. In the S. the Great Elephant Forest runs 150 *m.*, with a width of 30 *m.*

Madras (400,000) (*B. of Bengal*) is a handsome city with a very bad harbour—merely a roadstead two miles distant—which only admits small flat-bottomed boats or rafts to enter the town. It has trade in stuffs, cotton, and indigo. It is defended by Fort St. George, which contains the government offices and the courts of justice. Madras has a university and a grammar school. The climate is hot, but not unhealthy. It was taken by the French and much injured in 1744, but restored at the peace, 1748. Great quantities of ice are used by the inhabitants, in consequence of the heat of the climate.

Arcot (50,000) was the place where Lord Clive, in 1751, gained his first military laurels. In the neighbourhood is a tank to hold water in the dry season, 8 miles long. Vellore (50,000) was the scene of a massacre of the British officers by the native troops, 1806, in a mutiny. Tanjore (80,000) (*Cauvery*), a chief city of the Hindoos, is a town with very considerable manufactures. Trichinopoly (30,000) (*Cauvery*) is a strong town with manufactures of cutlery, jewellery, and cheroots of the best quality. Cuddalore, on the E. coast, was taken from the French, who had seized it two years previously,

* Milner's Geography.—Chambers.

by Sir E. Coote, in 1760. It was again taken by the French in 1781, and was undergoing a siege by us at the peace of 1783. Tranquebar, further S., was purchased from the Dutch, 1846.

The N. Circars district extends from the Chilka Lake along the Carnatic coast to the mouth of the Kistna, with a low shore, rising as we go inland.

Ganjam is now almost in ruins. Chicacole (50,000), in a more salubrious situation, has been more fortunate. Masulipatam (25,000), near the mouth of the *Kistna*, has manufactures of chintzes and muslins, and carries on an active trade with China, Arabia, etc.

Malabar and S. Canara are similarly situated on the W. coast, being greatly covered with mountains, the slopes of which are richly clad with sandal wool, teak trees, and other valuable timber. The shore is sandy. The district produces cocoa-nuts, rice, spices, pepper, and ginger.

Mangalore (15,000), though with a very bad harbour, is one of the principal ports for the exportation of rice.

Calicut (20,000) is remarkable as the first place in India visited by Vasco de Gama, 1498. It gave its name to the well-known article *calico*. Cannanore (20,000), the best harbour on this coast, is the principal British station in Malabar. Beypoor is a little S. of Calicut.

Coimbatore lies almost entirely E. of the W. Ghauts, between the Malabar and Carnatic coasts, with the Neilgherry Hills on the N., which decline gradually into the table-la nd of Mysre. Coorg, on the N.W., with beautiful well-cultivated valleys, and a diversified surface, the lowest point of which is 3,000 feet high, was an independent principality. The annual rainfall is 120 inches. It contains several ramparts, rising from 20 to 25 feet, evidently constructed in remote antiquity for defensive purposes.

Coimbatore, a large town, a station on the Madras railway, is on the S. declivity of the Neilgherries. Near the town is a great gorge in the W. Ghauts, which admits of the free passage of both monsoons.

Utacamund, or Ooty, a sanitorium for Europeans, is situated among the hills. Mercara, the capital of Coorg, stands 4,000 feet above sea

level, and is inhabited by an industrious athletic race of mountaineers.

Mysore is an inland district, almost as large as Scotland, and consisting for the most part of a table-land, drained by the Cauvery, the Pennar, and other rivers. The climate is healthy and pleasant, and the productions are cinnamon, pepper, coffee, silk, cotton, and sago. It is intimately connected with the history of Hyder Ali, and his son, Tippoo Sahib. The population about 5,000,000.

Mysore (55,000) contains the British Residency. Its houses are built of teak.

Seringapatam (12,000) was strongly fortified by Tippoo Sahib, who made it the capital of his dominions. It is on an island in the Cauvery. In 1792 it was attacked by Lord Cornwallis, who compelled the Nizam to give up half his dominions. In 1799 it was taken by the British, and Tippoo Sahib killed. Bangalore (60,000) is the largest town on the coast; has cotton and silk manufactories.

Travancore and Cochin form the S.W. extremity of S. India. They are among the most favoured places as regards soil and climate —the valleys give abundance of the best rice; the hills the best timber of pine and teak.

Cochin (30,000) has ship-building, and is a highly commercial town, though its harbour is not good. Trivandrum (12,000), the capital of Travancore, is at the mouth of the Karamany. It has an observatory. Quilon (15,000) is a port further N.

INDEPENDENT STATES.

These consist of *Cashmere*, in the N., bordering on the Punjab; *Nepaul*, on the southern slope of the Himalayas; and *Bhotan*, further east, on the same slope.

Cashmere lies imbedded in high mountains, amongst which are some very lofty summits. It is one of the most interesting portions of the earth, consisting of an elevated valley, bordered by hills of from 80 to 90 miles long, with an elevation of 5,000 feet. It contains a lake, *Wuller*,

40 miles in circuit, through which the *Jhelum* flows, and brings with it the drainage of the whole valley. The staple production is rice; fruit-trees and roses are cultivated with great care; wheat and other grain crops are also raised; sheep are plentiful; and the Cashmere goat has long been famous for his long silky hair. The manufactures consist of shawls (of goat's hair), leather, firearms, and ottar of roses.

Serinagur or Cashmere (40,000), the capital, is situated on the Jhelum, near the centre of the plain, and commands a splendid view of magnificent scenery. Islamabad, higher up the river, is a seat of the shawl, woollen and cotton manufactures. Here the river becomes navigable for barges. Baramula stands at the pass through which the river breaks through the mountains. Sampre is a populous town on the *Jhelum*.

Nepaul borders Thibet on the N., and the plains of the Ganges on the S. Much of the country is occupied by rugged mountains, with long narrow valleys and deep gorges in some places. Mounts *Everest* (the highest peak in the world), overhangs its northern border, and *Dhwalagiri* (26,876 ft.), with many other prominent summits of the Himalayas. On the southern border grassy downs, forest and jungle* are found. Rice is the principal production; but maize, cotton, wheat, and barley are cultivated. Most of the mountains are covered with large trees, and the sugar-cane flourishes in the valleys.

Khatmandoo (50,000), the capital, contains a great number of temples and steeples, but has many narrow, dirty streets. Goorkha, 50 miles N., was the ancient capital.

Bhotan is also a mountainous district, a dependency of Thibet. In favourable places grain crops are raised. Oaks and pine forests cover the mountains to the height of 8,000 or 10,000 feet. The religion is Buddhism.

Tassisudon, the capital, is a large town in a fertile valley It has manufactures of brazen images.

* Usage restricts the term "jungle" to "tangled scrub and brush, alternating with reedy swamps and thick grass tracts."

French Possessions.

The French possess *Pondicherry* and *Karikal*, on the Coromandel coast; *Chandernagore*, N.W. from Calcutta; *Mahé*, on the Malabar coast; *Yanaon*, near the mouth of the Godavery.

Pondicherry (30,000) is the capital of the French possessions. It is 83 miles from Madras. A canal separates the Black or native town from the European part, which is well laid out. This town was taken by Colonel Coote, 1761, but was restored 1763. It was again taken by Sir H. Munro, 1778, and again restored at the peace of 1783. The district around has a population of 80,000. Chandernagore (25,000) is now fast decaying. It is sixteen miles from Calcutta. Yanan or Yanaon (5,000) consists of the town, and six miles around.

Portuguese Settlements.

These are very unimportant. New Goa, the capital, is on an island at the mouth of the Mandova, and has one of the best bays in India. Its trade, however, is declining. Old Goa (4,000), the former capital, is five miles distant. Diu is a fortified port on the coast of Goojerat. Damaun, in the neighbourhood of a teak forest, has shipbuilding.

Mountains.—The mountains of India are mostly in chains, some of which extends for hundreds of miles.

The *Himalayas* in the N. The *Aravulli* mountains in Rajpootana, culminate in Mount *Abu* (about 5,000 ft.). The *Vindhya* mountains run parallel to the river Nerbudda in central India, and rise to about 6,000 feet. The *Sautpoora* range, N. of the river *Malabar*. The *W. Ghats* or *Ghauts* (7,000 feet) run parallel to the coast. The *Neilgherries* (8,760 feet) connect the preceding range with the *E. Ghauts*, which run along the Coromandel coast.

Rivers.—The rivers flowing into the Bay of Bengal, are the *Brahmapootra*, *Ganges*, *Bramuni*, *Mahanuddy*, *Godavery*, *Kistna*, and the *Cauvery*, almost all of which enter the sea by several mouths.

The Brahmapootra, on the N. of the Himalayas, corresponds to the Ganges on the S. It rises in Thibet, in *L. Calutzo*, where it is

formed of many mountain torrents. It proceeds E. under the name of *Sampoo* for 1,000 miles, where it is joined in the N. of Assam by the *Dibong*, which also comes from Thibet, and has had a course of 300 or 400 miles. The river now proceeds to the S.W., and N. of the *Garrow* mountains, which it leaves on the E., turns S., and, mingling its waters with those of the Ganges, enters the N. of the Bay of Bengal. Ganges has been described. The Bramuni enters at Point Palmyras. The Mahanuddy, a little further S., flows E. through Bengal on the S.W., and, after 520 miles, enters the sea. At Cuttack it separates into several branches. The Godavery rises in the W. Ghauts, and passing through the Nizam's dominions, enters the sea, after crossing almost the whole peninsula, by several mouths. It receives the *Pranheta* from Berar. The Kistna, with a course of 700 miles, is a little further S., and passes *Sattara* on the W., and enters the sea near Masulipatam on the E. On the N. it receives the *Beemah*, and on the S. the *Toomgabudra*. The Cauvery rises also in the W. Ghauts, and flows through Mysore, passing *Trichinopoly*, *Tanjore*, and entering the sea a little N. of Culimore point.

The rivers entering the Arabian Sea are the *Indus*, *Nerbudda*, and *Taptee*.

The Indus has been described. The Nerbudda separates the Vindhya and Sautpoora mountains, and has a course of 800 miles. It passes Jubbulpoor, Hoshangabad, Burwanee, and Burmah, entering the Gulf of Cambay. The Taptee, a little further S., falls into the same Gulf near Surat. Lakes, etc.—*Chilka* is on the E. coast between the Circars and Bengal. On the W. is the island of Cutch, with the Great Western Runn on the N., and the Runn of Cutch on the E.—*Koree* mouth being the entrance to one, and the Gulf of *Cutch* the entrance to the other.

Deserts.—The *Great Desert* in the N.W., runs from Scinde N.E. through Rajpootana as far as the Sikh states. The *Little Desert* runs along the S. of Scinde, bordering on the "Great Western Runn."

ISLANDS.

Ceylon, a "Crown colony" in the Indian Ocean, is separated from Hindoostan by Palk's Strait and the Manar *G.* Its length is about 270, and is breadth 140 miles. The interior is traversed by finely-wooded mountains and watered by numerous lakes and rivers, the principal of the

latter being the *Mahawilla*, which after a course of 200 *m.*, empties into the bay of Trincomalee. The most remarkable mountain is called Adam's Peak (7,420 feet).* The soil is rich and vegetation luxuriant, producing coffee, sugar-cane, cinnamon, rice, pepper, also teak and other valuable woods. This island abounds with precious stones, including sapphires, rubies, and topazes. There are also mines of iron and manganese. The supply of pearl in the Gulf of Manaar has very much declined of late years. Ceylon is chiefly famous for its elephants, which are esteemed for size and sagacity. The population (2½ millions) contains only 20,000 Europeans. Since 1801 this island has been a separate British colony, under a governor, aided by a council of five members, and a legislative assembly of 15 members.

Colombo (80,000), the capital, is on the W. coast on a small headland, and though in a hot climate, is, from its exposure to the influence of the monsoons, a healthy town. The harbour is small, but the roadstead secure. It has large and commodious barracks. Cinnamon plantations are in the neighbourhood. This town was taken from the Dutch, 1796.

Galle, or Point-de-Galle, is on the S.W. coast. It has an excellent harbour, and has become an important steam-packet port of call, with trade in coffee, rice, cinnamon, oil, ivory, and tortoise-shell. **Trincomalee** (30 000), on the N.E. coast, is fortified. Its harbour was called by Nelson "the finest in the world." **Candy** or **Kandy** (8,000) is on the borders of a lake, near the centre of the island. **Jaffna** (7,000) is a place of great commercial importance. **Nuwara Ellia**, at an elevation of 6,000 feet, is a sanitary resort for invalided Europeans.

The **Andaman Islands**, in the Bay of Bengal, yield valuable timber, but have an unhealthy climate, though refreshed by very cool breezes. They are inhabited by naked savages, who fight with spears and arrows. Five of the islands are of a considerable size, and the group extends

* Near the mountain in the forests around are talipot palms of a gigantic height. On the level summit is a lake, and also a great stone bearing the mark of a colossal human foot, which the Mahometans believe to have been made by Adam, the Christians by St. Thomas, and the Buddhists by Buddha. The highest peak in the island is *Pedrotallagalla*, 8,250 feet.

about 150 miles. At *Port Blair*, the convict establishment since the Indian mutiny, Lord Mayo, the Viceroy, was stabbed by a convict, 8th February, 1872, and died a few hours after. The **Nicobar Isles** lie about 100 miles more S., and are inhabited by people of mild disposition. The **Maldives**, off the S.W. coast, mostly of coral formation, consists of about 10,000 isles and reefs. They are tributary to Ceylon, though governed by a native chief, who pays a tribute. The **Laccadives**, nineteen in number, with hundreds of small ones, are occupied by an Arab race. Their ruler is subject to the governor of Madras.

Indian Railways.—From Calcutta a line runs N.W. to the Ganges, and along the S. of the river to Patna, thence to Allahabad, the Indian railway centre, whence it proceeds N.W. to Delhi, and thence to Lahore, from which it runs parallel to the Sutlej to Mooltan, and is in progress to Kurrachee. From Allahabad a line runs S.W., passing Jubbulpore, to Bombay, and sends a branch to Nagpoor, along the S. of the river Taptee. From Bombay a railway runs S.E. through Poonah, Shalapoor, Gooty, and Cuddapah, to Madras; thence it proceeds S. to Salem, where one line runs through Coimbatore to Calicut, and another through Trichinopoly to Tanjore. From Bombay a line runs along the coast by Surat and Baroda; another S.E. by Poonah and Hyderabad; a line crosses the Nerbudda to Indore. Railway trains run from Calcutta to Bombay in sixty-four hours. Above 165 millions are invested in the railways.

Inhabitants.—The *Mahometans* number twenty millions, who "have seen their sect and race dispossessed of ill-gotten supremacy," and have witnessed the steady rise of the subject races, which they once regarded as despicable inferiors. The Indian Mussulman, now 11 millions, looks upon the Indian education system, British rule, and modern scientific advancement, with sullen resentment. The *Wahabees* are a fanatic section of Mussulmans, who dwell among the hills on the N.W. frontier. The **Looshais** are uncivilized marauders, who dwell on the Looshai hills, in the N.E. These tribes are usually plotting against the government. Before the conquest of India by Clive, the Mahometans constituted the ruling class.

The **Hindoos*** consist of several sects, all of which are idolaters. The Hindoos accept the education system, learn the English language, and fit themselves as far as possible for public employment. They

* They believe "there is one supreme God, and that He is pleased with charity and good works."

are intelligent and frugal; but subtle and treacherous, and are 127 millions. The *Ghonds* live in a mountainous forest region W. of Orissa, and still *secretly* offer human sacrifices. These various tribes, including Brahmins, number about 150 millions. The *Parsees* are dying out gradually.

The *Sikhs*, who dwell near the Sutlej, number about two millions. The *Jains* or *Buddhists* are widely diffused, and number five millions. All religions are equal in the eye of the government, which "continues to pay the State grants made to Hindoo temples and Mahometan mosques." The offering of human sacrifices has been disallowed. Christian missionaries have been moderately successful. There are 8,000 *Jews* in India.

Education.—There is in the capital of each Presidency a University, a director of public instruction, and a staff of school inspectors. Colleges are established in most of the principal towns, and an engineering school at Poonah. No religious instruction is given in the primary schools. The language of India, with the exception of a few dialects in the S., is derived from the *Sanscrit*, the ancient tongue of the people, which has now branched into above twenty dialects.

Manufactures are chiefly coarse linen, silk, ropes, and cotton; the latter having 40 mills in Bombay, 4 in Calcutta, 2 at Cawnpore, and 1 at Nagpore, etc.

Exports are tea, jute, cotton, opium.

Commerce.—The foreign trade amounted to 100 millions in the financial years ending 1874-5.

FURTHER INDIA.

Further India, or "India beyond the Ganges," extends from the Bay of Bengal to the Chinese Sea, and from Thibet, on the N., to Singapore on the S. Much of the interior is unknown. The surface is traversed by mountain ranges running N. and S., between which large rivers flow in the same direction.

States.	Capitals.
1 British Possessions,	*Moulmein*, on the Saluen.
2 Burmah, Empire of,	*Mandalay*, on the Irrawaddy.
3 Malaya,	*Perak*, on W. coast.
4 Siam, Kingdom of,	*Bangkok*, on the Meinam.
5 Cambodia,	*Udong*, near the Cambodia.
6 French Possessions,	*Saigon*, on the Saigon.
7 Annam, Empire of,	*Hué*, on the E. coast.
8 Laos, Country of,	*Chang-mai*, on the Meinam.

British Possessions.—British Burmah has a population of 2,750,000, and consists of:—**Assam**, on the N., bordering on Thibet, Bhotan, and Burmah, and traversed by the Brahmapootra. It was ceded by Burmah, 1826. It is principally attractive on account of its tea culture. The towns are all small. **Aracan**, on the shore of the Bay of Bengal, is swampy with a broken coast on the N., fringed with islands. **Pegu**, about as large as Ireland, includes the lower course of the Irrawaddy, and its large delta. This province was retained after the Burmese war, 1852. *Tenasserim* is nearly 500 miles long, and about 50 broad, extending from Pegu to Malacca. The climate is not extreme; the soil is fertile, and minerals abundant. The *Straits Settlements* are under a separate governor, and consist of *Penang*, or *Prince of Wales's Island*, *Singapore*, *Province Wellesley*, and *Malacca*.

The capital of **Aracan** is **Akyab**, at the mouth of the river Aracan. It is the port of the province. **Rangoon** (100,000), at the mouth of the Irrawaddy, has considerable trade. It is the head quarters of British influence. **Prome** (30,000), higher up the river, is the largest town in British Burmah. **Moulmein** (54,000), (*Saluen*), is the most commercial town in the province. **Gowhatty** is the chief seat of trade in Assam. **Rassein** (20,000) (*Irrawaddy*) is a river port.

In the *Straits Settlements* **Georgetown**, the capital (40,000), has a good harbour, and rather extensive trade. Pepper is largely exported from Penang.

Malacca, at the mouth of a small river, contains the British garrison for the province. **Singapore** (60,000) is the steam-packet station, and an entrepot for merchandize. Though it is only eighty miles from the equator, the climate is not so hot as might be expected.

INDEPENDENT STATES.

Burmah is bounded on the E. by China, and a small portion of Annam; on the S. by Siam and the British province, Pegu; and on the W., by the British Provinces, from which it is separated by the *Yoma Dang* and *Potkoi* mountain ranges. It is divided into two nearly equal parts by the Irrawaddy. It contains extensive pine and teak forests

trees; also oil trees, which produce much vegetable oil. Petroleum is found in large quantities. The mineral wealth of the country is very great, but not much developed.

Mandalay (*Irrawaddy*), the present capital, is a little N. of Amarapura.

Ava (30,000) (*Irrawaddy*), the former capital, is the largest town in the country; It is a little S. of Amarapura, a former capital on the same river. In 1839, it was nearly destroyed by an earthquake. Bhamo (15,000), a flourishing town on the same river, is near the Chinese frontier. Montchobo (*Irrawaddy*) was a temporary capital for several years. Mogoung has rich amber mines.

Malaya is also inhabited by tribes governed by chiefs, who exercise patriarchal authority. The inhabitants make good seamen, but are much addicted to piracy, and are said to be treacherous. The country is mountainous.

Perak (*W. coast*) is a small town. The trade has left the Malay towns, for the most part, and has gone to the British provinces, where life and property are more secure.

Siam.—This country is watered by the *Meinam*, which runs through a rich alluvial plain. The people* are very fond of European improvements, and the king is at present (1872) travelling in America. Considerable trade is carried on by the Chinese, who are about as numerous as the Siamese in the country. The productions are valuable.

Bangkok (350,000) (*Meinam*) is the largest town of Further India. It is semi-aquatic, many of the houses being on floating rafts. Its position has been compared to that of Venice.

Yuthia, or Siam (*Meinam*), the old capital, is on an island higher up the river. Pech Aburri (*Coast*) is often the resort of the king and court.

Cambodia lies further up the river of the same name than the French territory, and borders on the gulf of Siam. It contains a large lake, the *Talé-Sap*, and has a fertile soil, producing rice, coffee, silk, spices, gamboge, cotton, and sugar. There are some fine forests.

Udong (*Talé-Sap*), is the only town in the district.

* The inhabitants are remarkable for peculiar ceremonies. They always kneel in presence of superiors; and the Siamese ambassadors, a few years ago, went down on "all-fours" in presence of the Queen.

French Territory.—This was taken possession of in 1860, until which it formed a part of Annam or Cochin-China, and consists of three provinces extending up the Cambodia river for 130 miles.

Saigon (100,000) (*Saigon*) is a naval and commercial port, containing a French garrison, and is the head-quarters of the settlement. Mitho is the largest town.

Annam, lying on the E., along the Chinese sea, is fertile near the coast, but mountainous in the interior. It consists of three provinces:—*Tonquin*, in the N.; *Cambodia*, in the S.; and *Cochin-China*, in the E.

Hué (70,000) (*Hué*) is well fortified, the palace and inner citadel being surrounded by a wall. The suburbs are extensive. **Kesho** (100,000) is a busy place. The capital of the Northern district.

Laos, rich in metals and woods, is inhabited by tribes under chiefs, who are independent of one another. The people are quiet, and very fond of music.

Changmai (23,000) is the only important town in the country.

Mountains.—The *Patkoi* range, between Assam and Burmah, with its continuation, the *Yoma Dang*, on the E. of Aracan, extends 500 *m.* through Pegu to Cape Negrais. The *Kareens* are on the borders of Pegu, between the Panglaung and the Saluen rivers. A range of hills runs along the W. of Siam, which, with little interruption, proceeds through Malaya.

Rivers.—The **Irrawaddy** has been described—see p. 340. The **Saluen** rises in China, passes through the S.W. of China, enters Burmah, separates Pegu from Siam, and enters the gulf of Martiban after a course of 750 *m.* The **Meinam** rises on the borders of Burmah, and after a course almost directly S., enters the gulf of Siam. The **Cambodia** or **Me-Kong** rises in Thibet, runs through the S.W. of China, winds through Laos, now forms the W. boundary of Annam, and, turning W., proceeds through Cambodia to the Chinese sea after a course of 1,650 *m.*

Islands.—*Ramree*, with mud volcanoes, *Cheduba*, a productive island, the *Mergui Archipelago*, *Penang*, *Salangan*, and *Singapore*.

CHINA.

The Chinese Empire includes most of Central and Eastern Asia. China proper extends from 18° to 42° N. latitude, and from 98° to 123° E. longitude. Its length from N. to S. is about 1,600 miles, and its breadth about 1,300.

In the N. the river Amour and the Altai mountains form for a great distance the boundary between China and Siberia; in the W. the Thian Shan mountains are on the frontier; on the S.W. the Karakoram and Himalaya ranges form the boundary.

The Surface consists of an elevated district in the N.; an extensive alluvial plain, already referred to, in the centre; and an undulating region, interspersed with valleys and mountains, in the S. The *productions* are tea, silk, cotton, paper, indigo, with the drugs camphor, rhubarb, arsenic, and poppies.

China Proper is divided into Nineteen Provinces.

Provinces.	Sq. miles.	Population.	Capitals.
5 *Northern Provinces.*			
1 Pe-chi-li	59,000	28,000,000	Pekin (*Peiho*).
2 Shan-tung	65,100	29,000,000	Tsi-nan (*Hoang-ho*).
3 Shan-se	55,268	14,000,000	Tai-yuen.
*4 Shense or Shensi	67,400	10,000,000	Sin-gan (*Weiho*).
*5 Kan-Su	86,600	15,000,000	Lanchow (*Hoang-ho*).
10 *Central Provinces.*			
6 Kiang-Su	44,500	38,000,000	Nan-King (*Yang-tse-Kiang*).
7 Ho-nan	65,000	23,000,000	Kai-fong (*Hoang-ho*).
8 Ngan-whi	48,500	34,000,000	Ngan-King (*Yang-tse-Kiang*).
9 Hoo-poe	70,450	27,000,000	Wo-Chang, *do.*
*10 Se-chuen	166,880	21,000,000	Ching-too.
11 Hoo-nan	74,320	18,000,000	Chang-sha (*Siang*).
12 Quei-chow	65,554	5,000,000	Quei-yang.
13 Che-Kiang	39,150	26,000,000	Hang-chow.
14 Fo-Kien	53,480	15,000,000	Foo-chow (*Min*).
15 Kiang-si	72,176	23,000,000	Nan-chang (*Kan*).
3 *Southern Provinces.*			
16 Quang-tung	79,456	19,000,000	Canton (*Canton*).
17 Quang-se	78,250	7,000,000	Quei-ling.
*18 Yun-nan	108,000	5,000,000	Yun-nan (*L. Thian-chi*).
Transmural Province.			
19 Shing-King	62,000	1,000,000	Moukden.

* These provinces lately rebelled against Chinese authority. The Sultan of *Panthay*, a part of Yun-nan, with *Talifoo* as its capital, lying N.E. of Burmah, claims to be ruler of Yun-nan independent of China.

DEPENDENT STATES.

Provinces.	Square Miles.	Population.	Capitals.
1 Corea - -	86,000	10,000,000	King-Ki-tao.
2 Manchuria - -	292,000	2,000,000	Moukden.
3 Mongolia - -	1,300,000	2,000,000	Oorga (*Tola*).
4 E. Turkestan -	490,000	2,700,000	Yarkand (*Tarim*).
5 Thibet - -	591,000	6,300,000	Lhassa (*Brahmapootra*).

[The following are the meanings of the most common words in the above :—*Foo* = a town or province of the first rank; *Chow* or *Chew* = do. of the second; and *Hien* = do. of the third. *Pe* = North; *nan* = S.; *tung* = E.; *see* = W. *King* = court; *ho* or *kiang* = river; *shan* = mountain; *hoo* or *hou* = lake.]

TOWNS.

Pekin or Peking (*Peiho*) (1,700,000), the capital of the empire, is about 100 *m.* from the sea, on a sandy plain. It consists of the northern or Tartar town, where the seat of government is, and the southern, or Chinese town, the seat of commerce, and the residence of the bulk of the population. The city is within a high wall, the streets are narrow and dusty, and tradesmen generally work in the open air. The imperial palace is the chief building. The manufactures are glass, idols, and porcelain. In 1860 the British and French troops took the city, and sacked the emperor's summer palace, a beautiful residence in the suburbs.

Tein-tsin (700,000) (*Peiho*) is the port of the capital, 70 *m.* from it, and has trade with the interior. In 1858, a treaty was made here by which most of the ports were opened to foreign commerce. It is a great salt depôt, but closed by ice 3 months in the year. Nanking (500,000) (*Yang-tse-Kiang*) is about 100 *m.* from the sea. It has good streets and handsome shops, an observatory, manufactures of silk, paper, crape, satin, Indian ink, and Nankeen cloth, and is considered the literary capital. In 1842, a treaty was here made, by which the ports Canton, Amoy, Foo-chow, Ning-po, and Shang-hai, were opened to foreign trade. Ching-Kiang, on the same river, 50 *m.* distant, is a decayed maritime city, taken by the British, 1842. Shang-hai (240,000) (*Wong-po*) is enclosed by a high wall. With manufactures of silk, glass, and paper, it combines coasting trade. It was also taken in 1842. Ning-po (350,000) (*Ning-po*) stands on a rich plain, and is a place of wealth and importance, particularly in the tea trade. Foo-chew (900,000) (*Min*) is situated among hills.

It is remarkable for extensive trade and industry; has cotton manufactures, and good black tea is brought from the neighbourhood. **Amoy** (250,000), on the coast opposite Formosa, has very extensive coasting trade. It has porcelain and paper manufactures, and an excellent harbour. It was captured by the British, 1841. **Chang-chow** (1,000,000) is the centre of the silk trade.

Canton (1,200,000) (*Canton*), about 70 *m.* from the sea, is a place of great importance, has long, winding narrow streets, with good shops, gardens, and pleasure-grounds. It is said 30,000 of the inhabitants live on floating rafts in the river. There are above 100 temples and several schools and colleges. It is the greatest town in the empire for commerce. In 1841, the Chinese were here defeated, and the town taken by the British. **Macao** (500,000) (*Canton*), 50 miles S.E., has belonged to the Portuguese since 1586. **Kien-chow** (600,000) has a large trade. **Tai-yuen**, in the interior, has porcelain, carpet, and iron manufactures. **Tai-tong**, near the great wall, is well fortified. **Kai-fong**, on the Hoang-ho, is the chief residence of the Jews in China. **Honan**, on the same river, is in the centre of the empire. **Swatow** (*Coast*) is an important seaport for foreign trade. **Soo-chow**, an important place, with silk manufactures, was much injured by the Tæping rebels, 1857; taken by the English, 1863. **Fong-yang**, near the Hoang-ho, is a large city. **Nan-chang** is a populous city, with porcelain manufactures. **Kin-te-ching** (700,000) has the largest porcelain manufactures in the world. No foreigner has been allowed to enter it. **Yun-nan** on a lake, has active trade with Burmah. **Sin-gan** (1,000,000), is the military head-quarters of the northern provinces. **Wuhu** is 55 *m.* above Nanking, and **Tatung** 64 *m.* further up the river. **Talifoo**, a city of Yun-nan, is an important trade emporium.

Mountains.—Besides the border ranges, the following are the most important: The *Yu-ling*, which runs along the S. near the gulf of Tonquin; the *Nan-ling*, "S. Mountains," separated from the former by the valley of the Canton river, is a more extensive chain, also running E. and W.; the *Sin-ling* range, further to the W., runs N. and S. between the Yang-tse-Kiang and the Hoang-ho rivers; from the centre of this chain the *Pe-ling*, "N. Mountains," run E. a little S. of the Hoang-ho. In the N. the *Khin-ghan* range separates Manchuria from Mongolia. The *Kuen-lun* and *Nan-shan* mountains lie N. of Thibet.

Rivers.—The **Yang-tse-Kiang**, the longest river in Asia, rises in Thibet, traverses all the Chinese central provinces, and enters the Yellow Sea. Its mouth is 100 miles wide, and the river itself constitutes a great commercial highway. The **Hoang-ho**, or "Yellow River," rises in the Nan-shan *Mts.*, passes twice through the Great

Wall in a circuitous course, and falls into the gulf of Pechili. It brings down an enormous quantity of sediment, is navigable for 1,000 *m.*, but is subject to inundations. The Peiho, "White River," falling into the same gulf, has a bar at its mouth; it rises in Mongolia, and in the winter is frozen over. The Canton is properly an estuary.

Lakes.—The chief are *Tai-hoo*, *Si-hoo* (Western Lake), *Tong-ting*, *Po-yang*,* and *Hong-tse*.

Islands.—*Hainan*, with a hilly interior and rocky coasts, produces much timber. It has good fisheries and some minerals. Its area is 12,000 square miles, and the population 1½ millions.

Hong-Kong is 10 miles long and 3 broad, and has a rocky surface. It has belonged to the British since 1842. *Victoria*, the capital is on the N. side. Formosa the Chinese penal colony, is about 240 miles long and 100 broad; a mountain chain called the *Ta-chan* runs through the island, rising in one place to 10,000 feet. The valleys are rich and fertile, and the chief products are rice, maize, nuts, apricots, figs, sugar and pepper. Tai-wan-fu (70,000), the capital, is a walled city. Kelung is a coal port. Tamsuy is a trade seat. Amoy is a rugged barren isle. Chusan is the largest of a group of isles near Ning-po.

Industries.—The two great national works are the *Great Wall*, which runs from the Gulf of Pechili, along the northern frontier for 1,500 miles, and the *Grand Canal*, which runs from *Hang-chew* for about 700 miles to *Lin-chin*. It formed a convenient mode of transit for the rice fleet from the most productive provinces to the capital. The Chinese are very skilful in the manufacture of satins, chinaware, jewellery and paper. Of late human hair for the modern head-dress has been much exported.

Education.—The Chinese language is monosyllabic, and words vary their meaning, not by inflexion, but by their position in a sentence. It has long been the custom to make government appointments the result of competitive examinations, as has been lately adopted in our own country. The *Mandarins* are the learned class. In China and most of the Malay islands the cock is considered sacred.

Inhabitants.—The merchants are very acute in their dealings.

COREA.

The peninsula of the Corea, forming a separate kingdom, tributary to China, is bounded N. by Manchuria, W. and S. by the Yellow Sea, and E. by the Straits of Corea and the sea of Japan. It is about 600 *m.* long and 150 in breadth. The surface is diversified by a chain of moun-

* This lake is traversed by boats which bring tea from the interior, but can only ply in favourable weather.

tains which runs along the E. coast, and is a continuation of those mountains which traverse Manchuria. Wherever the soil admits it is well cultivated, and the chief productions are oats, millet, rice, and ginseng, a plant whose root is deemed a cure for all diseases. Iron and salt are also found. In some districts there is a tree which yields a valuable varnish, and a peculiar kind of paper is manufactured from cotton. The inhabitants are represented as ingenuous and brave, but rather suspicious and unsociable towards strangers. They have borrowed the most of their customs from the Chinese, but their language is different. Along the W. coast for about 200 miles extend numbers of small islands called the *Corean Archipelago*. The chief river is the *Toumen-Kiang*.

King-ki-tao, the capital, is near the centre of the country.

MANCHURIA.

Manchuria, in the N.E., between the Great Wall and the river Amour, is inhabited chiefly by Chinese traders and agriculturists. In the W. and N.W. the surface is hilly and woody, but in the S.E. there is a level surface, with good pastures; a portion in the E. has lately been ceded to Russia. Wheat, barley, rye, hemp, cotton, and rhubarb are raised.

Moukden (200,000) is the residence of the viceroy. It is a fine town, regularly built, and inhabited by thriving citizens. Bows and arrows are largely manufactured. Kir-in-Oola, more N., is also an improving town.

MONGOLIA.

Mongolia is an elevated country, separated from Manchuria by the Khin-gan mountains. The desert of Gobi, consisting of a sterile wilderness of sand, is in the centre. The inhabitants are mostly wandering tribes, who exchange sheep, goats, etc., with the Chinese for tea and manufactured goods. Mongolia is about 1,600 *m.* from E. to W., with an average breadth of 700 *m.* Though there are some

good and extensive pastures, yet the general aspect of the country is dreary. The *Altai* enter on N.W. The Yellow River runs a short distance through it on the S.E.; the N.E. is drained by the Amour, and the N.W. by the Irtish. In the N. the Selenga flows to *L.* Baikal, and the Ulu Kem joins the Yenisei. The inhabitants, who are mostly Mahometans and Buddhists, are in general shepherds. There are several tribes headed by chiefs.

Oorga is 47° N. latitude and 4,700 feet above sea-level. Kobdo and Ouliassutai have a little trade. Maimatchin, "town of trade," on the Russian frontier, opposite Kiachta, is a small town where exchanges are made. Between the towns there is about fifty perches wide, a kind of neutral ground. Karakorum, now in ruins, was the residence of Zenghis Khan.

CHINESE OR EASTERN TURKESTAN.

Chinese Turkestan, or Thian-Shan Nan-loo, is bordered by the following mountain chains:—The Bolar-Tagh in the W.; the Thian-Shan in the N.; the Hindoo Koosh on the S.W., and Kuen Lun in the S. The river *Tarim*, which receives many tributaries from the mountains, flows E. into Lake *Lob Nor*, after a course of 1,500 miles. Several pretty large lakes are scattered over the country, and a part of the desert of *Gobi* is in the N.E.

Yarkand (50,000) (*Yarkand Daria*), on a tributary of the Tarim, is the capital. It has considerable trade.

Cashgar or Kashgar (40,000), on a river of the same name, has much trade across the hills with Bokhara. Aksu, in the N.W., is on the great caravan route to China.

THIBET.

Thibet, or Tibet, is a highland region, between the Himalaya mountains on the S. and the Kuen-Lun and Nan Shan ranges on the N. It contains the sources of most of

the great rivers of Asia, and has many large lakes—*Paltee*, (with a large island in the centre), *Tengri Nor*, *Namcho* (with no outlet), *Baka Nor*, etc. There are four provinces: *Kam* or E. Tibet, of which little is known; *Ari* or W. Tibet,* with *U.* and *Tsang*, called *Utsang*, which form *Great Tibet*, mainly an elevated plateau. The people are a Chinese race, with a language, religion, and thought more allied to India. Salt and borax are found. Sheep and wild fowl are numerous.

Lhassa (70,000), the capital, is 11,700 feet above sea-level. **Ladak** (10,000) is the capital of **Little Tibet**. **Giantze** and **Shigatze**, on the Sampoo, are small places.

TURKESTAN.

Turkestan consists of a number of states (Khiva, Bokhara, Khokand,† Hissar, Wakhia, etc.) almost independent of each other. It extends from Afghanistan to Thian Shan, from the sea of Aral on the N.W. to the Hindoo Koosh mountains on the S.E. It is drained by the Amoo‡ or Sihoon (ancient Oxus), which flows, by many branches, into the sea of Aral, after passing Khiva and Bokhara. Fruits of great excellence are produced, including apples, grapes, melons, etc. Gold and precious stones are found in small quantities. Manufactures of cotton, silk, linen, and woollen goods, with shagreen and other kinds of leather, are carried on. In the S. several hordes of Turkomans wander about, and acknowledge little authority beyond that of their chiefs. Grain, precious stones, horses, and other animals constitute the chief wealth.

Bokhara (90,000) is a splendid city, the capital of the Khanate of the same name. The numbers of trees give it the appearance of being in the centre of a forest. It is an important seat of Mahometan learning, and has 300 or 400 mosques. It is also an important seat of trade, frequented by eastern merchants. **Samarcand** (10,000) once the capital of the empire of Tamerlane, is now of little importance. Situated in a delightful valley in the midst of

* This is tributary to Cashmere. Here the rain-fall is *nil*, and the snow-fall scanty. Leh (*Indus*), its capital, is 11,200 feet above sea-level.

† Russia has lately annexed these three Khanates.

‡ This river, which penetrates into the interior of Central Asia, is navigable for 700 miles; and *Khundush* on its banks is only about 300 miles from Peshawur. It rises in the *Pamir* steppe, in lake *Sisi-kul*, 15,600 feet above sea-level.

beautiful gardens, it has great caravan trade; and contains Tamerlane's tomb, much venerated by Asiatics. **Balkh** (8,000) is a very ancient city, once possessing great trade, but now much reduced. **Khokand** (60,000), a wealthy place, is the capital of a state of the same name. **Tashkend** (60,000) (*Bossu*) has manufactures of silk, cotton, and gunpowder. **Khiva** (100,000), also the capital of a province of the same name, has extensive caravan trade with Russia. It was taken by Russia, 1873, and slavery abolished in the Khanate. It contains several mosques, and has a college.

The towns of *Kungrad*, *Schurahan*, and **Khojend** (40,000) (*Jaxartes*), the latter a flourishing place, are also held by Russia.

ASIATIC RUSSIA.

Asiatic Russia includes Siberia, Trans-Caucasia, a portion of Manchuria, and the recently conquered provinces of Central Asia, referred to in the preceding page.

Siberia slopes gradually from the Altai mountains to the Arctic ocean. It is a cold inhospitable region, frozen in winter to the depth of several score feet, and in the hottest summer only thawed to the depth of four feet. It is much colder than places in the same latitude in North America, steppe and forest extending for hundreds of miles. The inhabitants are intelligent, dwell in wooden houses, which are mostly collected into villages.

Districts.	Sq. Miles.	Population.	Capitals.
1. Siberia	5,205,079	4,625,000	Tobolsk and Irkutsk.
2. Caucasia	170,798	3,257,704	Stavropol and Tiflis.
3. Dzoungaria	70,000	2,000,000	Tchugutchak.
4. Kuldja	20,000	700,000	Kuldja on the Ili.

Siberia is divided into E. and W., the capital of the former being Omsk, and the latter Irkutsk. In the W. extensive forests cover the central and N.W. districts; but on the borders of the Caspian and sea of Aral are vast steppes, similar to those in European Russia. Some of the valleys produce abundance of fruits.

Nomad races of small stature inhabit the moss-swamp borders of the Arctic ocean, very ignorant and degraded—hunters and fishers; and the southern steppes, described as salt and arid, a burning, treeless, and waterless waste in summer, a quagmire in spring and autumn, a trackless snow level in winter, are inhabited by *Kirghis*, a Turkish tribe, nomadic in their habits.

Tobolsk (20,000) (*Irtish*) is a great centre of commerce. **Tomsk** (10,000) (*Tom*), a well built, handsome town, of evil repute, is a trade centre, with a military school. **Omsk** (11,000) (*Om*) has trade in furs, brandy, and tobacco. **Barnaul** (*Obi*) is much engaged in smelting the minerals of the Altai mountains. **Krasnoiarsk** (7,000), a decayed town, has tanneries and trade in furs. **Koryvan** has jasper quarries in its neighbourhood. **Berezov** (*Obi*) is the abode of many illustrious Russian political exiles. **Ekaterinburg** (15,000) (*Urals*), exclusively engaged in mining industry. **Tiumen** (10,000) (*Tura*) is a commercial town on the great road to Tobolsk. **Guriev**, near the mouth of the Ural, has a spacious harbour, with increasing trade. **Yeniseisk**, on a river of the same name, has trade in furs.

Eastern Siberia contains all the vast region E. of an irregular line drawn from about 96° E. longitude on the S., to 113° on the Arctic ocean; but bending eastwards on the 60th parallel to 105° E. longitude. It contains the peninsula of Kamtschatka, the island Saghalien,* and a coast district E. of Manchuria, the *Liakov* and *Aleutian* isles, New Siberia, and the lately-discovered Franz Joseph Land, the former producing fossil, ivory, and the latter furs. It has many mountain chains, several lakes, endless forests, and large rivers. Its chief wealth consists in furs.

Irkutsk (20,000) (*Angara*) is a good town near *L.* Baikal, amidst beautiful scenery, and containing several fine public buildings. Many miners pass the winter here in gambling.

Kiachta (3,000), "place of clover," on the Chinese border, is a place for the merchants to exchange goods. **Nertchinsk** is in the midst of quicksilver and lead mines. **Okhotsk** (2,000) is a small port on the sea of the same name. **Yakutsk** (3,009) (*Lena*), in the midst of marshes and forests, has important trade in ivory and furs. **Petropaulovski** (1,000) (*Kamtschatka S.*) the capital of Kamtschatka, is a small port, with trade in furs, etc.—bombarded by the allies in 1854.

Caucasia is divided into two provinces, *Cis-Caucasia*, N. of the Caucasian mountains, and properly included in Europe, and *Trans-Caucasia*, S. of that range. Two roads cross the mountains, one along the shores of the Caspian, the other crossing the Caucasus in the centre. A great

* By a treaty with Japan this isle was to be joint property; but lately Russia has grasped almost the whole of it. She sends batches of convicts to colonize it. The island is 600 miles long, and about 90 broad, with a population of 15,000. A garrison is at *Dhui*. The climate is cold; corn will ripen only in a few sheltered valleys.

number of tribes live in this region, many of which are brave, intelligent, and beautiful in person. The country on the N. side rises gradually from the steppes, while on the S. an elevated region connects the mountain with the Armenian highlands. The inhabitants live in small villages on the hills. The chief rivers in the S. are the *Kur*, having its source in the Elburz, with the *Aras*, its tributary. On the N. the *Terek* and the *Kuma* flow into the Caspian, and the *Kuban* into the Black Sea.

Stavropol, the capital of Cis-Caucasia, has manufactures of soap and leather.

Tiflis (70,900) (*Kur*), the capital of *Georgia*, is the most important town in Trans-Caucasia—active with trade in fruits, and in many manufactures.* Baku (5,000) (*Caspian*) is one of the chief ports. Erivan (12,000) is the capital of Russian Armenia, and produces good wine. Derbend (10,000) (*Caspian*) has trade in silk. Alexandropol is on the Turkish border.

Dzoungaria, situated on the N. slopes of the Thian-Shan mountains, belonging to China till 1864, when the Mongols† achieved independence. The Russians crossed the border river, Borochudsir, in May 1871; and, after several engagements, entered *Kuldja*. This is a mountainous region, with "fertile valleys skirting the wild declivity of the hills." It is about twice the size of Ireland: population two millions, of whom three-quarters of a million are natives, the remainder being chiefly Chinese settlers. The minerals are coal, gold, silver, and copper; cattle and horses are numerous, and corn and fruit can be raised.

The towns, in addition to the capital, are Barkol and Ulrumtsi, both small and unimportant.

Kuldja, a district, on the Thianshan hills, is rich in minerals and vegetables. It also belonged to China; and with Dzoungaria was known as Thian Shan-pe-loo.

Kuldja or Guldcha (*Ili*) is in the W., a little N. of the Nan Shan hills.

NEW RUSSIAN PROVINCES—RUSSIAN KHIVA.

All the land on the right bank of the Amou-Daria, formerly belonging to Khiva, and the delta of the river, is

* It is connected by rail with *Poti*, its port on the Black Sea.
† A Tartar tribe of Mahometan faith.

now a Russian province. *Igdy* is now a Russian military station. A new town, *Petro Alexandrovsk*, is founded on the banks of the river on the road from Khiva to Bokhara.

Russian Ferghand, formerly Khokand, has been annexed (1876)*—a further step Indiawards.

Mountains.—The Ural and Altai ranges have been described. In the extreme E. there are many mountain chains of considerable length, such as the *Yablonoi* or *Stanovoi*, which run to Behring's Straits.

Rivers.—The *Obi*, formed of many streams from the Altai range, is joined by the *Irtish* and *Tobol*, and the united stream enters the *G.* of Obi after passing Berezov in its course. The *Yenisei* rises in Mongolia, passes Yeniseisk, and enters the Arctic Ocean. On one of its tributaries—the Angara, flowing from *L.* Baikal, a rapid stream unfrozen for 20 versts—is Irkutsk. The *Lena* rises in the Baikal mountains, receives many tributaries, the *Aldan* being the largest, and passing Yakutsk and Bulun, enters the sea by several mouths. The *Anadir* flows into a gulf of the same name, near Behring's Straits.

Lakes.—*Baikal*, bounded by mountains, is long and narrow, with an area of 20,000 square miles, frozen over until 10th April every year, is 1,280 ft. above sea-level. *Balkash* is about two-thirds as large, and receives the river *Ili*. The *Sea of Aral* and *Caspian Sea* are still further west. There are above thirty Russian vessels on the Caspian, and six or seven on the Sea of Aral.

JAPAN.

Japan, "the Empire of the rising sun," consists wholly of islands (the largest being *Niphon*, *Yesso*, *Sikok*, and *Kiu-siu*) in the Pacific Ocean, to the E. of the Chinese Empire. The general surface is mountainous, and there are some active volcanoes; the highest peak, *Fusi-yama* (14,177 feet), is in the island of Niphon. These islands are rich in minerals, especially copper, which is much used, as in China, for the manufacture of common utensils. Coal is also found. Next to literary pursuits, agriculture is held in the highest estimation. No spot of ground is left untilled; and tillage is carried on even to the top of the hills. Rice is the principal crop; but ginger, cotton, pepper, indigo, tobacco, and tea also rank among the productions. The Japanese, the

* The climate is mild, soil fertile, producing corn, silk, tobacco, and wine. The Turk Tartars are the ruling tribe.

most jealous people in the world of foreigners, excel in various industries, as the manufacture of silks, cottons, porcelain, and japanned ware.

The people have large heads, small hands and feet, yellow skin, oblique eyes; are hard and courteous, but proud and mendacious. Only in the island of Yesso, where the inhabitants maintain themselves chiefly by hunting and fishing, is there an inferior civilization. The government is despotic, and, like China, exceedingly jealous of European intercourse. Its climate is nearly the same as that of the S. coast of England, and Japanese plants flourish here in the open air. However, there are frequent and dense fogs, often followed by severe hurricanes, which threaten the houses, although they are only of one storey. A new system of coinage has been introduced, and the use of the English language is now much encouraged. The *Kurile* and *Loo-choo Isles* also belong to Japan.

Till 1858, *Nagasaki* (53,000), in Kiusiu, was alone open to general foreign trade; but by a treaty (1858) at *Jeddo*, two additional ports, *Kanagawa*, in Niphon, and *Hakoddai* (60,000), in Yesso, were opened to European commerce, and another, *Niegata*, was added in 1860.

Yokohama, opened to trade in 1859, is a seat of foreign commerce, and of a British fleet. Though built on swampy ground it has good streets and squares. There are two newspapers published in English and one in French. The people are clean and tidy. Yedo Ieddo, or To-Kei (750,000) (*O-o-Gawa*), at the head of a beautiful bay, occupies an area of 36 square miles. It consists of a citadel surrounded by a moat, the part outside the citadel, and the suburbs. The houses never exceed two storeys in height. It is now the residence of the Emperor or Mikado; and here he holds his court. *Matsmai* (50,000) is a commercial place. Miako (500,000) is the literary capital, and has many fine temples. Osaka (200,000) is its port.

AFRICA.

Africa is the least known and least civilized of the great divisions of the earth, is 5,050 miles long from Cape Ras-el Kerun to Cape Agulhas, and 4,600 broad, from Cape Verd on the W. to Cape Guardafui on the E.

It lies between 37° 40′ N. lat. and 34° 39′ S.; and between the meridians 17° 28′ W. and 51° 20′ E. longitude. The present population is about 180 millions.

The *Productions* consist of gold, silver, copper, iron, diamonds, ostrich feathers, wool, slaves, wheat, maize, cotton, sugar (the cane grows wherever there is enough moisture), timber, cloves, nutmegs, pepper, oils, tobacco, and hides of wild animals.

The usual divisions of Africa are: I. Northern Africa, or the Barbary States. II. North-Eastern Africa, or Region of the Nile. III. The Sahara, or Great Desert. IV. Western Africa, including Senegambia. V. Eastern Africa. VI. Southern Africa. VII. African Islands.

TABULAR VIEW OF AFRICA.

	Square miles.	Population.	Capital.
NORTHERN AFRICA.			
1 Morocco,	260,000	3,000,000	Morocco.
2 Algeria,	258,300	2,900,000	Algiers.
3 Tunis,	46,201	2,000,000	Tunis.
4 Tripoli,	344,401	750,000	Tripoli and Mourzuk.
NORTH-EASTERN AFRICA—Nile Region.			
1 Egypt,	659,073	17,000,000	Cairo.
2 Nubia,			Khartum.
3 Abyssinia,	97,000	4,500,000	Gondar.
SAHARA.	2,200,000	2,150,000	Agades, etc.
WESTERN AFRICA.			
1 Senegambia,	97,000	11,650,000	Bathurst.
2 Soudan, or Nigritia,	1,600,000	40,000,000	Timbuctoo.
3 Upper Guinea	397,000	10,000,000	
4 Lower Guinea	368,000	12,300,000	Loango.
EASTERN AFRICA,	500,000	25,000,000	Zanzibar.
SOUTHERN AFRICA,	3,000,000	17,000,000	Cape Town.
ISLANDS,	250,000	5,700,0000	Antananarivo.

NOTE.—There is still an unexplored country, with an approximate area of 1,000,000 square miles, and a population of probably ten or twelve millions of inhabitants.

Bays, etc.—On the N. the gulf of *Sidra* in Tripoli, *Cabes* and *Tunis* in Tunis. On the W. the gulf of *Guinea*, in the interior of which are the bights of *Benin* and *Biarffa;* in the S. are the bays of *St. Helena*, *Saldanha*, *False*, and *Algoa;* on the E. Mozambique channel and the Red Sea.

Climate.—There are three marked varieties of climate:—That on the plateaux, on the terraces leading to them, and that of the coasts.

Mountains.—The mountains are mostly near the coast, and may be arranged under four systems:—(1) **North Coast**, which includes *Atlas*, running from *C.* Ghir, on the Atlantic, to *C.* Bon, on the Mediterranean, and continuing E. under the names *Gharian*, *Black* and *White* mountains. (2) **W. Coast**, including the *Kong*, *N.*, and *Sierra Complida* mountains, *E.* of the Gulf of Guinea. (3) **S. Mountains**, including the Nieuwveld and *Swarte Berge* ranges. (4) **E. Coast**, including *Lupata*, and the *Abyssinia* mountains. In addition, we have the Table mountains, near Cape Town; *Kenia* (in Zanzibar) 18,000 feet; *Kilimandjaro* (20,000 ft.), the highest African peak yet discovered.

Lakes.—*Tchad*, S. of Fezzan, from 8 to 15 ft. deep; *Albert Nyanza* and *Victoria Nyanza*, under the equator; *Tanganyika* (2,800 ft. above sea level); *Bangweolo* and *Moero*, further S.; *Nyassa*, and *Shirwa*, near Mozambique; *N'gami*, in the S., about 70 *m.* by 20; *Sankorra*, in the centre; *Dembea*, in Abyssinia.

Capes.—On the N., *Bon;* on the E., *Guardafui*, *Delgado*, *Amber*, *St. Mary* (in Madagascar), and *Corrientes*. On the W., *Blanco*, *Bojador*, *Verde*, *Palmas*, *Nun*, *Three Points*, *Lopez*, *Negro*, *Frio*. On the S., *Good Hope* and *Agulhas*.

Rivers.—The Nile, the chief river, rises in *L.* Victoria Nyanza, under the equator, whence it runs N.W. into *L.* Albert Nyanza, whence it runs N., and on its course receives on the left the *Gazal*, from the unknown interior. Under the name *White* Nile it proceeds to Khartum, where it receives the Blue Nile, an E. tributary. Still further N. it receives the *Atbara*,* or "Black river" (which is itself formed of many streams from the Abyssinia highlands), whence it sluggishly flows. About 110 *m.* from the sea it divides into many streams, and forms the Delta, with an area of 9,000 square miles. It annually overflows its banks, the result of heavy tropical rains, commencing about the end of February, and inundates the surrounding country from about the middle of June to the middle of September. Disastrous effects often result from this rise being greater or less than what is usual. In the one case the river bursts its bounds, whole villages are swept away, and many lives lost. In the other a scarcity of water to ferti-

* The rain falls sometimes in such torrents that the river becomes 50 feet deeper in one day. This tributary contributes greatly to the Nile's overflow.

lize the soil and fill the canals cut for its retention and preservation ensues. The waters of the canals are used when the inundation subsides to renew the drooping vegetation. The valley of the Nile consists of a fertile strip, varying in breadth from less than one to twelve miles. The cataracts greatly interrupt the transit of goods. Near the river are many reminiscences of ancient Egyptian greatness. Amongst these are pyramids, sphynxes, obelisks, and ruins of many beautiful temples. The Nile abounds with crocodiles (most numerous in Nubia), hippopotami, and other large animals. Rice, cotton, sugar, tobacco, are cultivated in the valley, and quickly arrive at maturity, influenced by the action of the tropical heat on a humid soil. Particularly in its upper course, the river scenery is picturesque. On its banks are Alexandria, Rosetta, and Damietta (on the Mediterranean); Cairo, Ghizeh, Minieh, Siout, Keneh or Gheneh, Thebes, Esneh, Assouan, Derr, New (and Old) Dongola, Berber, Meroe, Khartum, Ismailia or Gondokoro, and Dufli.

The **Zambezi** takes its rise in the unknown interior, its headstreams uniting in 15° S. latitude. It then flows S.E., and below the Victoria Falls turns N.E., and then E. past *Tete*, where it again turns S.E., and, 100 miles from the sea, receives the *Shire* from Lake Nyassa. It forms a delta about 50 miles from the sea. The Falls, which are about midway in its course, are described by Dr. Livingstone as the most wonderful sight he ever witnessed in Africa.

The **Senegal** drains nearly half of Senegambia. Formed of several streams from the heights in the interior, it passes into the plain, and divides into two separate streams for about 100 miles of its course. It enters the sea by two mouths. Its whole length is about 1,500 miles; and the tide ascends the river about 180 miles.

The **Gambia** has one-half its course through the mountain region. It is about 500 *m.* long, 200 of which being navigable. At its mouth is Bathurst, and up the river Pisania.

The **Niger**, first explored by Mungo Park (1796), rises in the Kong mountains. Above Timbuctoo it is called *Joliba*, and below it *Quorra*. On its banks several tribes live in a state of perpetual hostility to each other. It has a winding course, and enters the gulf of Guinea by several mouths. The *Sokoto* is its chief tributary.

The **Zaire** or **Congo** is the largest African river, as to its volume of water, which is only second to that of the Amazon. It is 10 *m.* wide at its mouth, and more than 200 fathoms deep.

The river **Lualaba** is said to be the Upper Congo, rising near *L.* Tanganyika. The **Kusizi** flows into this lake.

The **Orange** river, or **Gariep**, rises 10,000 feet above sea level, in *Mount aux Sources*, a summit of the Drakenberg, and forms the N.

boundary of Cape Colony. The *Great Fish* river and the *Vaal* are its most important tributaries. Its length is about 1,000 miles.

The Limpopo, which receives the *Olifant* (its principal tributary) from the Transvaal, enters the sea a little N. of Delagoa Bay.

The Rovima enters the Indian Ocean near *C.* Delgado.

NORTHERN AFRICA.

THE BARBARY STATES.

Of the four Barbary States, Morocco and Tripoli are independent. Algeria is subject to France, and Tunis to Egypt.

Morocco extends from a little S. of Cape Nun on the Atlantic, to the river Mullavia. It is traversed by the Atlas range, which runs from S.W. to N.E. The rivers flowing into the Atlantic are the *Draa*, *Tensift*, and the *Sebu;* the *Mullavia* has a course of above 400 miles. The climate on the N.W. is temperate, being moderated by the Atlantic breezes and sheltered from the desert-heated winds; but in the S.E. rain is unknown; here the heat is intense. This country produces wheat, maize, dates, tobacco, cotton, fruits, and hemp. Copper is found, also a little gold, silver, iron, and lead in many places. The chief manufactures consist of fine silks, and leather of various colours—yellow, green, and red. Wild animals are numerous; lions, panthers, hyænas, wild boars, wild deer, and ostriches are found in the S.E. The people are Moors (most numerous), Berbers, Arabs, and Jews, with considerable intermixture. There are four territories—*Fez*, *Morocco*, *Suse*, *Tafilet*.

Morocco (55,000) stands in the S.W. near a fertile plain. It is badly built, has narrow streets, but many good mosques, and some leather factories. Fez (60,000) (*Sebu*) has trade in silk, leather, and cochineal. Mequinez (50,000) has a royal residence. Mogador (10,000) (*Atlantic*) is the chief port. Rabat has an imperial dockyard. Tangier (8,000) (*Atlantic*) came into possession of England in 1662, and was held till 1684. The European consuls mostly reside here. Ceuta (7,000), opposite Gibraltar, with a few settlements near, belongs to Spain, and is used as a place of political exile. Tetuan (18,000) is in the midst of large orange groves and vineyards, and exports gums, sugar and coffee.

Algeria, E. of Morocco, is divided by the French, to whom it has belonged since 1830, into three departments —*Algiers*, *Oran*, and *Constantine*. Its physical divisions are:—The narrow fertile *plain* near the Mediterranean, the hilly *plateau* formed by continuations of the Atlas mountains, and the district bordering on the desert, called *Al-Koblah*. The productions include monkeys, apes, bears, wild boars, sheep, camels, mules, eagles, herons, storks, rice, millet, dates, fruits, with rock-salt, copper, lead, and iron. The cultivation of cotton is increasing. The inhabitants are mostly Arabs. Climate, N. of the Atlas range, resembles that of S. Spain, with more rain in winter.

Algiers (60,000) (*Coast*), the military head-quarters, has active trade, and steam communication by sea. It was notorious for piratical depredations; and was bombarded by Lord Exmouth, 1816, and taken by the French, 1827. At present it is in good repute as a resort of invalids, "having inspiriting air and fine scenery." Blidah (9,000), in the S.W., has iron mines, trade in grain and essences, and is connected with the capital by rail. Medeah (8,000), and Miliana (2,000), have trade in wines and cereals. Constantine (36,000), capital of the department, is strongly built, and has trade with the interior. Bona (12,000), with active trade in grain, wool, oil, tobacco, etc., has iron mines near. Philipeville (9,000), a port, has vast forests and marble quarries near. Oran (30,000), a fortified port, is the capital of the department. Mascara (7,000) has trade in olive oil, wines, and woollens. Mostaganem (6,000), near the coast, has trade in silk, cotton, wine, and tobacco. Tlemcen (13,000) has lead and quicksilver mines, trade in oil, etc.

Tunis is washed by the Mediterranean for 400 *m*. The shore in the bay of Tunis is low and swampy, but rocky on the N. The shores of the gulf of Cabes are also low. In the N.W. it is mountainous, containing the *Frigean* and *Mogody* mountains, rising to an elevation of about 5,000 feet, with fertile slopes on their sides.

Though agriculture is backward, crops of wheat, maize, tobacco, and olives are raised; dairy farming and sheep rearing are important industries. In the W. the country is well wooded, and lions, panthers, lynxes, and wild boars are numerous. In the S. is the large salt lake, *Al Sibhah*, mostly dry in summer, but seventy miles long in winter.

The climate is dry and healthful, being greatly moderated by the sea breezes. Flies and scorpions are very troublesome to foreigners.

Tunis (150,000) (*L. of Tunis*) is a large commercial city, about six miles from the sea, on a gently rising slope, within 10 *m.* of the site of Carthage. Its streets are narrow, winding, and poorly paved. In its harbour, a few miles distant, active trade is carried on. It exports olive oil, wool, sponges, fish, grain, with ivory and ostrich feathers brought from Timbuctoo by caravans. It has manufactures of woollens, leather fabrics, and Fez caps. Goletta is its port. Kairwan (50,000), in a fine plain, contains many remains of its ancient greatness. It has the largest mosque in Africa, and was the capital of the African Saracens in the eight and ninth centuries. Kaff, on the W. frontier, is a strong fortress. Cabes (30,000) has an active export trade in dates. Susa (8,000), and Bizerta (6,000) are small seaports. Monastir (10,000) has some manufactures of woollens.

Tripoli lies along the coast of the Mediterranean, with the gulf of *Sidra* in the centre, and borders on the desert in almost every other direction. The *Gharian* mountains cross the country about 20 miles from the sea, and the *Sudah* about 30 miles further S., among both of which corn and fruits are largely grown. A marsh, 100 miles long, borders the W. shore of the gulf of Sidra, and a sterile tract is at its southern shore. Dates, olives, figs, grain, salt, and sulphur, are among the productions.

Fezzan is a dependency of Tripoli, and extends a considerable distance into the Sahara. Barca, a table-land in the E., is also a dependency. No rivers are found in Tripoli. The rains are abundant from November to March. Crops of grain are raised on the tops of the plateaux, and vines, olives, figs, etc., on their sides. The Bedouin Arabs are the principal population.

Tripoli (16,000) stands on a rocky promontory, defended by a castle. The harbour is good, and the commerce active in ostrich feathers, gold dust, ivory, etc.

Mesurata (*Coast*) is noted for its carpets.

Mourzuk (4,000), the capital of Fezzan, is the greatest centre of caravan trade in Africa, and also of the slave trade. Here 130° are registered in the shade; therefore one of the hottest places on the earth. Dernah (5,000), in Barca, is a small port. Benghazi (5,000) is the residence of the governor of Barca. Ghadames is on the borders of the Sahara, and has trade with the interior.

AFRICAN DESERTS—THE SAHARA.

Sahara, or the Great Desert, extends from the Atlantic to the confines of Egypt, consisting of table lands, mostly without vegetation and without water, with a sterile, sandy surface, interspersed with green patches called *oases*. A great depression, called *El Jûff*, 500 *m.* long and 80 *m.* broad, connects it with the Atlantic. The chief food of the few people found here consists of dates. The inhabitants are much addicted to plunder; and travellers go in companies, called *caravans*, for mutual protection. Numerous elevations rise from 3,000 to 6,000 feet. The heat by day is oppressive, and the cold by night is often intense. The rain falls in torrents; but in some places there is no rain for years. The *Simoom* is a very pestilential wind which prevails in the desert, but only continues for ten or twelve hours at a time. The *Libyan* desert lies in the extreme N.E. of the Sahara; the *Nubian* desert lies E. of the Nile, in the N. of Nubia; the *Bishareen* desert, in the S.E. of this country, and the *Bayûda* in the S.W.

From Morocco to Timbuctoo there is a caravan route, the place of rendezvous being *Tatta*. Another route is from Mourzuk to Agades, whence it proceeds to Bornou, beyond *L.* Tchad, and to various other places.

EGYPT.

Egypt extends from the Mediterranean to Nubia, about 500 miles, and lies between the Libyan desert, on the W., and the Red Sea on the E. The *Delta* and *Valley of the Nile* are so productive as to give three crops a year; the former is an alluvial tract of a triangular shape (*Greek* Δ), formed by the bifurcation of the river; and the latter, with an average width of six miles, running from the apex of the delta (near Cairo) to the Nubian frontier, being enclosed on either side by rocky hills. These districts are irrigated and enriched by the annual overflow of the Nile, as already fully explained.

Egypt is governed by a hereditary Pasha, now called a Khédive, who is subject to Turkey. The Suez canal extends from Port Said

(9,050), which has grown with the canal traffic, to *Suez*, a distance of 100 *m.* Ismailia is on the canal, near its centre. The Delta gives abundance of rice, and other places produce wheat and barley. Cotton and sugar, with fruits, are also important products; bread from Indian corn meal is the staple food. The people, though industrious, are very poor and miserable. *Lower Egypt* extends from Cairo to the Mediterranean; *Middle Egypt* from Cairo to Manfalout; and *Upper Egypt*, or *Said*, thence to the borders of Nubia.

Cairo (350,000) (*Nile*), called "Grand Cairo," is situated on the slope of a hill. The streets are narrow and crooked, but kept pretty clean. There is an Italian Opera, a French theatre, and some *cafés*. The houses are roomy and well built. Rain is seldom seen, but the dews are heavy. The mosques number nearly 400. The commerce is extensive, and caravans proceed to Senaar and Mourzuk; specimens of all the negro tribes are here to be seen in the slave market. Boulak, its port, is an important suburb.

Alexandria (200,000) is the commercial capital. It is like a European town, and is connected with the Nile by a canal 48 miles long. It is the chief station of the Khédive's fleet, and the seat of European commerce. Near the city are the ruins of the ancient Alexandria, built by Alexander the Great, B.C. 332. Here, in 1801, Sir R. Abercrombie (who was mortally wounded in the action) defeated the French; and five months later the French garrison yielded to General Hutchinson. The steamers from Brindisi ply to this port, whence the mails are carried by rail to Cairo, and thence to Suez. It is the birthplace of Euclid. Rosetta (15,000), 45 *m.* N.E., is a small port, which was taken by the French, 1798, and near it is *Aboukir* bay, where Nelson defeated the French fleet. Damietta (30,000), on a narrow neck between the Nile and *L.* Menzaleh, was once an important place. Suez (4,000) is becoming more important since the opening of the canal. Mansoorah (50,000), in the Delta, is a cotton depôt. Here the Crusaders were defeated in 1250. Matrieh is the seat of the Egyptian worship of the sun. Here, in 1800, the French defeated the Turks. Ghizeh is three miles above Cairo, on the opposite side of the river. Here eggs are hatched in ovens by artificial heat; and near is the finest of the pyramids, rising 460 feet in elevation, as well as the largest sphynx, a colossal figure, "with the head and shoulders of a man, and the body of a lion," cut out of the solid limestone. Siwah is in an oasis on the way to Fezzan. Siout (20,000) (*Nile*), the capital of Upper Egypt, was, until lately, a great slave market. It has manufactures of pipe-bowls. Girgeh (6,000) has a cotton factory. Assouan, at the first cataract, has trade in dates, senna, charcoal, etc. Kenneh or Ghenneh has extensive trade with Arabia and Central Africa.

THE DEPENDENCIES, NUBIA AND KORDOFAN.

These countries lie between Egypt and Abyssinia, and consist in the N. of deserts and rocks, but in the S. of hills and plains, with many vast forests. The climate, though hot and dry, is very healthy. Rain seldom falls. The usual divisions are Lower and Upper Nubia, the latter including *Dongola*, *Meroe*, and *Senaar*. The desert district of *Kordofan* is separated from Senaar by the White Nile. These countries are subject to Egypt, which also claims *Unyori* and *Bari*, which touch on *L.* Albert Nyanza. On both sides of the Nile the surface is fertile. This country produces senna, sandal wood, ebony, sugar-candy, myrrh.

Khartum or Khartoum (30,000) (*White Nile*) has flourishing trade. Senaar (8,000) (*Blue Nile*) has considerable manufactures of arms, leather, sandals, and jewellery. Derr (3,000) (*Nile*) is surrounded by palm groves and vines, from which much grapes are produced. New Dongola (5,000) (*Nile*) is an important trade depôt, and has an indigo factory. Berbex (8,000) is a slave mart; and Shendi (9,000) is a caravan centre. Suakin (*Red Sea*) is the only port of Nubia. El Obeid is the capital of Kordofan.

ABYSSINIA.

Abyssinia is, for the most part, a plateau rising from 6,000 to 9,000 feet, with parched lowlands towards the Red Sea. On the highlands, where the temperature is agreeable, rain falls from April to October, with little intermission, causing a luxuriant vegetation. Some of the mountains of the *Samen* range have an elevation of 15,000 feet, and are covered with perpetual snow. The soil is fertile; crops consist of wheat and barley, with beans, onions, and potatoes. Cotton grows in the plains, and a light spongy bread made from *taff** is the principal food of the inhabitants.

The black sheep are carefully tended on account of their valuable wool. The towns are very small, and the government unsettled. *Dembea* is a very large lake, 450 miles in circumference, in an exten-

* It is a kind of pulse, and grows everywhere, unless on the tops of the plateaux.

sive plateau of the same name. The *Blue Nile* and *Atbara* pass through it. *Tigré, Amhara, Shoa, Lasta and Waag, Gojam*, and *Kwara* are the six chief divisions of Abyssinia.*

Gondar (7,000) is the capital of Amhara, and the residence of the patriarch; Adowa (6,000) of Tigré, and Ankobar (4,000) of Shoa. Magdala is a fortress which was taken by our troops in 1868, when King Theodore was killed and the European captives liberated. Antalo is in the E. Axum was once important. Massowah (2,000), though the chief port of the country, belongs to the Egyptians as a part of Nubia.

Adal or Adel is a narrow district along the Red Sea (S. of Massowah), which extends above 300 miles, and produces gums of great variety. *Aussa* is its capital.

French Possessions.—Zoullah, on Annesley Bay; *Edd* and *Obock* with the small isles of *Desset* and *Ouda*.

WESTERN AFRICA.

Senegambia extends from the Senegal, its northern boundary, to Yawry bay, reaching about 300 miles into the interior. It has a great number of forests of acacias, which yield the gum resin. The name, though once applied to the country between the two rivers, Senegal and Gambia, yet has now the more extended application used above. It contains also the rivers *Rio Grande* and *Sierra Leone*. The climate is hot, humid, and very unhealthy to Europeans. The *harmattan*, a very dry wind from the desert, is often troublesome.

Three tribes and many small communities of negroes inhabit this region: (1) the *Jaloofs*, on the N. coast, a very low stamp of the human race; (2) the *Foolahs*, in the interior, a gentle race, much more advanced in civilization; (3) the *Mandingoes*, who dwell in the S., are partially engaged at agriculture and manufactures.

* The inhabitants, who go to bed at sunset, and rise with the return of day, fast 192 days in the year, abstain from meats according to the law of Moses, and keep Saturday holy as well as Sunday. The dwellings in Abyssinia are built of mud and stones, are one storey high and thatched. The rulers of provinces receive from landholders one-fifth of the produce and give one-tenth to the king. Some of the people are handsome. From a grain called *gram* a more savoury and substantial meal is made than that from taff. Wine is made from honey, fermented with a plant called *gesho*.

British Possessions.—Our "W. African settlements" are four:—Sierra Leone, Lagos, Gambia, and the Gold Coast. *Sierra Leone*, called the "white man's grave," a peninsula 18 miles long and 12 broad, is inhabited chiefly by liberated slaves. **Free Town**, its capital, is at the mouth of the Rokelle, or Sierra Leone river. This colony has an area of 465 square miles, and a population of about 40,000. The exports consist of palm oil, cocoa nuts, hides, ginger, and gums. The whole of the Dutch possessions have been ceded (1872) by treaty to Great Britain. They consist of *Elmina*, separated from Cape Coast Castle by the *Sweet* river, and other settlements. *Lagos* (20,000), an important town, was, with some territory around, ceded to Britain in 1861, and is a kind of protectorate. It exports cotton, palm oil, lead, indigo, and cam-wood, brought from the interior; and a bi-weekly post goes to *Rabba*, a town on the Niger, 250 miles distant. **Bathurst** (7,000) (*Isle of St. Mary*), at the mouth of the Gambia, is the head-quarters of the "Gambia settlement."

Gold Coast comprehends several settlements destined for the suppression of slavery. Gold, ivory, and gum are the chief exports. Of the 400,000 population 320 are Europeans.

French Settlements.—St. Louis (12,000), the capital of the French settlements, is at the mouth of the Gambia, and is inhabited mostly by Negroes. It has trade in gums. Goree (4,000) is a small fort near Cape Verd, on an isle of the same name.

Portuguese Settlements.—These consist of Bissao (7,000), one of the strongholds of the slave traffic, built on an island; Jeba, a less important place, and Domingo.

Guinea is usually divided into Upper and Lower; the former between the Kong mountains and the gulf of Guinea, running from the Bight of Biafra to the mouth of the Rokelle river, and the latter extending from the river *Nourse* to the Bight of Biafra. Upper Guinea includes Liberia, Ashantee, Fantee, Grain, Ivory, Gold and Slave Coasts, Dahomey, Yoruba, and Benin.

Liberia is a republic of free negroes who have escaped from the United States and other places: settled by the American Colonization Society, 1822, it is productive and thriving. This country, which became independent in 1847, has several coasting and trading vessels. Monrovia (8,000) so named after President Monroe—the capital—has trade in rice, indigo, yams, and other fruit. Bexley is the only other town worth naming.

Ashantee* is a native inland state, with *Coomassie* (40,000), an open town, 140 *m.* from the coast, for its capital.† It is generally hilly, watered by the river *Assince* (the boundary between the Ivory and Gold Coasts) and the *Volta*, which is 400 *m.* long: climate near the coast unhealthy. There are two rainy seasons and one dry; forests are extensive; sugar, tobacco, maize, yams, rice, dyes, hardwoods are produced; reptiles, birds, bees, flies, are numerous. Salaga (*Volta*), famed for horses, is the largest town in the country.

Fantee is divided from Ashantee by the river *Prah*, a small stream almost absorbed in the dry season. The climate is most deadly to Europeans. The inhabitants have long been our firm allies.

The Coasts are so named from their respective products which in each case were the most important.

Dahomey, further east, is a kingdom of great power and extent. *Abomey* (25,000) is its capital. Here the people are extremely barbarous, and even offer human sacrifices. *Whydah* is its port.

Yoruba, further N.E., is also an extensive native kingdom, about which very little is accurately known. Its capital is Abbeokuta.

Benin, Wari, Ebeo, Attah, and Qua have for capitals, Benin (5,000) (branch of the Niger), Wari, Eboe, Attah, and Old Calabar.

Lower Guinea is inhabited by negroes, who are in a backward state of civilization. They speak various languages, bearing little resemblance to each other. The Portuguese claim sovereignty over the whole country, with the exception of Loango, which is independent. In the N. it is traversed by the Cameroon mountains; in the S. the country is hilly. The productions are varied and valuable.

* Our first engagement with these people was in 1824, when Sir C. M'Carthy was defeated and slain. They again attacked our forces, but were defeated at *Doodowah* in 1826. On this occasion, the *Fantees*, our allies, suffered dreadfully. The Ashantees for standards use umbrellas, which are enormously large, and that of King Koffe brought home as a trophy from the recent war excited much amusement. The barrels of their muskets are five feet long, and they carry a knife in their girdles. They have a fierce look, but a dignified manner.

† Taken and destroyed by the British troops, under Sir. G. Wolesley, 1874.

The slave trade is still a favourite and profitable occupation. The following are the divisions:—

District.	Towns.
Biafra - -	*Biafra* and *Angra*.
Loango - -	*Loango* (15,000) (*coast*) has active trade with Europe.
Congo - -	*San Salvador* (20,000) is a coast town with some trade.
Angola - -	*Loando* (13,000) is the residence of the Portuguese Governor of W. Africa.
Benguela - -	Benguela, a trading town on the coast, where Cameron arrived after crossing the continent, 1875.

Nigritia, or **Soudan**, lies S. of the Sahara, N. of Guinea, E. of Senegambia, and W. of Kordofan. It is, generally speaking, hilly on the S. and W., and has a sterile soil, with an extremely hot climate, consisting of two seasons—the dry and the rainy. It is divided into a number of petty states inhabited by negro tribes, who are intelligent and fond of trading. It produces gold dust, indigo, palm oil, fruits, ivory, cotton, gums, &c.

Bambarra lies E. of Senegambia. **Sego** (26,000) (*Joliba*), about 370 miles S.W., is its capital, by which it has active trade. Here Mungo Park first saw the Niger. **Masina** runs partly into the desert. **Jenneh** (10,000) (*Joliba*), has extensive trade. **Gando** is well watered by the Niger, and extends along its banks. **Yauri** (*Niger*) is in the centre. **Boussa** (*Niger*) is where Mungo Park was murdered. **Adamawa** lies S. of Bornou, from which it is separated by the great elephant forest *Marghi*. Yola, an immense slave depôt, is the chief town. **Bagirmi** lies further E., and consists of an extensive plain. It is a powerful state, much given to the practice of slavery. *Masena* is its capital. **Waday**, still unexplored, is occupied by various tribes. Warà, a large town, is its capital.

Darfur almost reaches Kordofan, and is drained into the Nile. *Kobbé*, the resort of caravans, is its capital. Tendelty is to the S.E.

Housa is a hilly country E. of the Niger, with a fertile soil, but a pestilential climate. **Sackatoo** (50,000) on a tributary of the Niger, is the capital: an important place. **Kano** (30,000) has manufactures of silks, and dyeing establishments. **Bornou** includes *L.* Tchad. **Kuka** (10,000) (*near L. Tchad*), is the capital of this powerful kingdom. **Angornou** (25,000) (*L. Tchad*), is the most commercial place in this state.

EASTERN AFRICA.

Eastern Africa extends from Natal to Abyssinia. Its physical aspect consists of maritime plains, uplands parallel to the coast, with depressions and swamps in the interior, which includes the great lake district. A district along the coast from Sofala to Mozambique belongs to the Portuguese. It exports India-rubber largely. The coast is productive, and slavery is not increasing. The following are the coast districts:—**Sofala** is a coast district almost entirely between the mountains of Lupata and the sea.

Sofala (3,000), the capital, has greatly declined. **Sena** is about 250 *m.* up the river *Zambesi*. The houses are small. **Inhambane** (5,000) (*Coast*) has trade in ivory and bees-wax. **Tete** (4,000) (*Zambesi*) has coal fields and iron-stone in the vicinity.

Mozambique is a coast district lying along the shore of the channel of the same name, reaching to *C.* Delgado.

Mozambique (6,000) stands on an island in the bay, and is the residence of the Portuguese governor. It has trade in gold dust. **Quillimane** (*Zambezi*) visited by Dr. Livingstone in 1856, has a good supply of coal, with trade in gold dust and slaves.

Zanzibar, generally speaking, extends along the coast from C. Delgado to 2½° N., containing the islands *Mafia*, *Zanzibar*, and *Pemba*, but only reaching a few miles inland.

This vast territory, though an arid coast, can produce all tropical plants, including pepper, cocoa, cinnamon, nutmegs, &c. The most important rivers are the *Juba*, the *Dana*, the *Wama*, and *Rufiji*, which has ten mouths, and enters opposite Mafia. With the visit of the Seyyid to England in 1875, and his praiseworthy efforts to suppress slavery, our readers must be familiar. He is tributary to Muscat. **Zanzibar**, or **Shanganny** (40,000) is the capital of the dominions of Muscat. **Melinda** is almost in ruins. It stands on an island.

We have Somali more N., which borders the *G.* of Aden.

Magadoxo, a walled town, is a trade seat. **Berbera** (*G. of Aden*) has an important fair. **Harrar** exports coffee, and **Zeyla** is its port.

The inland districts are:—The Galla country, Unyamuezi, Uganda, Ugogo, Bari, and Unyoro.

Kawelé is the capital of the country bordering E. on *L.* Tanganyika. **Nyangwé** (*Lualaba*) is associated with the memory of Livingstone. It is a stirring place, with a market every fourth day. **Uganda**

is rich in ivory. Unyoro borders on *L.* Albert Nyanza, and lies S. of Ugogo. Ujiji (*L.* Tanganyika) is an inland town, frequently visited by Dr. Livingstone, and where he remained some time with the Arabs. Here he was met by Stanley. Kisu (*Rufiji*) is a likely trade centre.

SOUTHERN AFRICA.

Southern Africa consists of *Cape Colony*, *Natal*, *Kaffraria*, *Orange River Free State*, *Transvaal Republic*, the *Country of the Hottentots*, and much unexplored territory more north.

SOUTH AFRICAN BRITISH COLONIES.

Cape Colony extends from the Orange river around the Cape of Good Hope, and includes British Kaffraria, with a gross population (1876) reckoned at 1,340,000. There are two mountain ranges; the most inland, known as Nieuwveld mountains, being the higher, and the *Zwarte Berge* more South, with a rich maritime district along the coast. The coast line is 1,200 *m.* long. The actual cape is 36 *m.* long, rugged and hilly, culminating in *Table* mountain, behind Cape Town.

Saldanha Bay,* on the W., is an excellent harbour; *Table B.* is hardly so good; but *Simon's B.* is very secure. North of the Nieuwveld mountains the surface slopes gradually to the Orange river, much desert-like upland intervening, called *Karroos*. The wild animals include the giraffe, zebra, lions, buffaloes, etc.

British Kaffraria† lies further to the east. Agriculture and grazing, for which this country is admirably suited, are the chief industries. The discovery of diamonds in the district of the *Vaal* river has recently caused a great immigration thither. Wool, wine, brandy, gold, diamonds, copper, and hides are the principal exports.

Griqualand, West (area, 13,000 sq. *m.*; population, 90,000), is the Diamond Fields district, and lies 700 *m.* from Cape Town. **Griqua** is the capital.

Cape Town (29,000) (*Table Bay*) was founded by the Dutch in 1650. The streets are regularly built, crossing at right angles or running parallel to each other. It has a good library, a botanical garden, some good schools, and considerable trade.

Simon's Town contains the government arsenal. **Stellenbosch** (5,000), in the midst of villas and gardens, is a Wesleyan establishment. **Beaufort, Georgetown, Colesberg,** and **Cradock** are small

* Here the British fleet defeated that of the Dutch, 1795.
† Of the population (167,000), only 17,000 are whites.

places. Graham's Town (4,000) about 500 *m.* E. from Cape Town, is well built, and has improving trade. Port Elizabeth (9,000) (*Algoa Bay*) has also good trade. About 25 *m.* inland is Uitenhage (5,000), the proposed new capital. Constance produces wine of high repute. William's Town, on the Buffalo river, is the capital of British Kaffraria. East London, at the mouth of the river, is its port. Kimberley is in the centre of the diamond fields.

Natal was discovered by Vasco de Gama in 1407.* It lies on the S.E. coast; is about the size of Ireland. It has a seaboard of 170 miles, and a population of 430,000. It was colonized by Dutch Boers about 1839. In 1843 it was declared a British colony, which, in 1856, was made independent of the Cape. The slope is to the Indian Ocean, into which more than twenty rivers flow; and the coast district, for about 25 *m.* inland, is level.

The productions are wool, sugar, coffee, arrowroot, ginger, with cereals; more inland, coal, copper, and iron are found; but the interior, which is mountainous, and covered with dense forests, has not been fully explored. The *Drakenberg Mountains* rise to 10,000 feet. There are nine counties.

Maritzburg (20,000), the capital, is 50 *m.* inland. D'Urban, the port of the colony, is increasing in importance. Greytown is in the interior. Port Natal (6,000) has a good harbour.

Independent States.

Caffraria, or **Kaffraria**, lying between Cape Colony and Natal, extends above 100 miles inland, with a hilly surface. It is inhabited by a brave and warlike, though not a very honest race, against which the British carried on a long warfare in 1853. The tribes are pastoral, and governed by hereditary patriarchs.

Butterworth and Morley are the only towns. They are very small.

The Orange River Free State, N.E. from Cape Colony, is chiefly inhabited by Dutch Boers, who, unappreciative of governmental restraints, emigrated beyond colonial jurisdiction. It is a plateau between the Orange and Vaal rivers. The population is under 40,000, and the products diamonds, wool, skins, and gold.

Bloemfontein (1,200), the capital, has a good wool market.

* The inhabitants are *Zulus*, a race whose custom is never to eat or drink anything without sharing with all their friends. The Europeans are not one-seventh of the entire population.

The Transvaal Republic is N.E. of the above, and slopes to the N. and W. It is a kindred state, founded by Dutch emigrants. The trade is chiefly in ivory. Of the population (70,000), one-half are whites.

Pretoria is the capital. It is 1,000 *m.* from Cape Town, but Potschefstrom is the largest town.

The **Country of the Hottentots** lies E. of the Great Fish and N. of the Orange river to Damara—a sterile region inhabited by various tribes, which dwell in small villages called *Kraals*.

Namqua Land is a coast district N. and S. of the mouth of the Gariep, known as Great and Little Namqua Land respectively.

ISLANDS.

The **Madeira** islands belong to Portugal. The group, which is 360 *m.* from the African coast, consists of one large island, 31 miles long and 12 broad, with 4 small ones. The surface of *Madeira*,* the large island, is elevated, rising in Mount *Rico Riuvo* to 6,100 feet above sea level. Several narrow valleys contain vineyards and gardens. The surrounding sea is deep; fish is scarce; but wild swine and rabbits are numerous in the interior. Sugar, wine, and coffee are exported. Population about 113,000.

Funchal (30,000) (*S. coast*) is the only town of importance. It is a coaling station for steamships, and exports good wine.

Porto Santo, a small island, is about 40 miles N. of Madeira. The three *Desertas* are uninhabited.

The **Canary** islands have already been described.

The **Azores** or **Western Isles** consist of nine islands, *St. Michael* being the largest. They export excellent oranges and other fruits, are of volcanic origin, have a moist climate, a diversified surface, and a population of about 25,000. Mount *Pico* rises to 7,600 feet.

Angra, on the island of Terceira, is the capital; but Ponta Delgada (17,000), on the island of St. Michael, is the commercial capital. It exports to Great Britain immense quantities of oranges.

The **Cape Verd** islands belong to Portugal. Ten are inhabited. On *St. Vincent* is **Mindello**, the capital of the group; and on *Santiago*, the large island, is *Porto*

* The luxuriance of the vegetation is unique; the quantity of fruit and vegetables most copious; and as a sanitarium the country is unrivalled, having no winter.

Praya, the commercial capital, which exports cotton, coffee, maize, and fruits. The population of this group is 9,000. Mount *Fogo* is 9,159 feet high.

MADAGASCAR.

Madagascar, the sixth largest island in the world, has considerable variety of surface, good bays and harbours, and important productions, consisting of rice, sugar, pepper, cotton, coffee, India-rubber, silk, iron, honey, and wax. A mountain range, rising in *Matowla* to 12,000 feet, runs through the centre of the island from N. to S. Cattle, sheep, and swine are numerous; and cotton, rafia,* iron, gold, and silver are manufactured. Immense rice fields are near the capital. The natives are more civilized than those on the African continent, and now profess Christianity. The population is about five millions, and the area 228,000 square miles. This island is 1,000 miles long and 350 broad. Though within the tropics the climate is temperate.

Antananarivo (60,000), on a table-land in the centre, is the capital. Tamatave (*E. Coast*) and Mojunga, on the W., are the chief ports. The French have two settlements, small islands, *St. Mary's* (6,000), and *Nossi Bé* (10,000), off the E. coast.

Bourbon or Reunion, lies 400 *m.* E. of Madagascar. It is mountainous in the interior, some of its volcanic peaks rising to 10,000 feet. It produces coffee, sugar, pepper, cocoa, and tobacco. *St. Denis* is the capital; but *St. Paul* is the chief port.

Mauritius,† or **Isle of France**, with a rugged surface, well wooded and watered, produces large quantities of sugar, some coffee, and ebony. The population is about 300,000, of which 12,000 are whites, and about 160,000 immigrants from India. Though it belongs to England, French is the language in use. *Port Louis* (20,000) is the capital.

Rodriguez, a dependency of the above, lies 300 *m.* E., and, with similar products, has a population of 250 persons. The *Chagos Isles* are also a dependency of Mauritius.

Desolation Isle is a fishing station of great sterility.

* A fibre from the rafia palm, which they make into cloth, ropes, etc.
† So named by its first settlers, the Dutch, after their prince, Maurice.

Comoro Isles, at the N. entrance to the Mozambique channel, are volcanic. They export cocoa-nut oil and tortoise-shell. The population, about 60,000, consists of Arabs and negroes.

Zanzibar is famous for spices. See p. 404.

Amirante and Seychelles (6,000) are two groups, also dependencies of Mauritius. Port Victoria, on *Mahé*, the largest of the latter, is the capital. The former have turtle fisheries.

Socotra, 130 miles E. of Cape Guardafui, has long been famous for its aloes, gums, and dates. It has been annexed by Britain; population, 5,000, chiefly Bedouins.

St. Helena, the abode of Napoleon I. during his exile, from 1815 to 1821, lies 1,200 *m.* from the African continent. It is a place of call for vessels on their homeward voyage from Australia to get fresh provisions and water. The population is under 7,000. Jamestown (*St. James's B.*) is the capital. *Ascension I.* also belongs to England. It is about 800 *m.* from St. Helena, and is noted for turtle and birds' eggs. Ships call here for provisions.

Fernando Po is a hilly, well-wooded *I.*, which has a population of 14,000, and belongs to Spain.

AMERICA; OR, THE NEW WORLD.

North and South America are united by the isthmus of Panama, in one place only 28 miles across.*

North America is 5,200 miles long from Panama to Boothia; but only 4,500 in a direct line: and 4,350 miles broad, between Cape Charles in Labrador and the extremity of Alaska; but only 2,700 on the 40th parallel. There are two archipelagoes—one N., called the *Arctic*, the other S., known under the name of the *West Indies*.

NORTH AMERICA.

States.	Area, Sq. miles.	Population.	Capitals.
Greenland,	400,090	9,481	Sievely, on Disco I.
British America	3,250,000	4,165,244	Ottawa, on the Ottawa.
United States	3,603,844	40,000,000	Washington, on the Potomac.
Mexico	753,978	9,287,413	Mexico.
Central America	188,344	2,828,635	Balize, etc.
West Indies	91,000	4,316,178	Havannah, etc.

* The new differs from the old world (1) in having no vast deserts; (2) in its surface being much nearer the sea than the interior of Asia and Africa; (3) its mighty rivers being admirably adapted for internal communication.

Surface.—The stupendous Rocky mountain range runs from N. to S., and more westward, and parallel to this, other (but much smaller) ranges run in the same direction. Another chain, the Alleghany, runs near the eastern coast-line. Between the Rocky and Alleghany mountains lies the immense plain of the Mississippi, with a general southern slope; and N. of this valley, the country, though not mountainous or hilly, is studded with large lakes, extensive forests, and morasses, becoming gradually more inhospitable as we approach the arctic regions.* The following are the chief physical divisions:—I. The district lying between the Alleghanies and the Atlantic, drained by numerous navigable rivers, almost all flowing westward. II. The valley of the Mississippi. III. The district between the Rocky mountains and the Sierra Nevada, continued in Mexico and Central America by several table-lands. IV. The valley of the St. Lawrence, including all the territory drained into the great lakes, whose surplus waters reach the Atlantic. V. The Arctic slope, drained by those rivers that flow into the Arctic ocean and Hudson's bay. VI. The N.W. slope, extending from the Rocky mountains, N.W., to the Pacific and Behring strait.

Seas, Gulfs, and Bays.—The *Caribbean* sea, including the gulfs, *Darien*, *Mosquito*, and *Honduras*; the *Gulf of Mexico*, including the bay of *Campeachy*; on the E. *Chesapeake*, *Delaware*, and *Fundy* bays, and the *Gulf of St. Lawrence*; on the N. *Baffin*, *Hudson*, and *James'* bays; on the W. the gulfs of *California*, *Tehuantepec*, *Fonseca*, and *Panama*; on the N.W., *Bristol Bay*.

The Gulf of Mexico is separated from the Atlantic by a row of islands and large banks, the former consisting of the Antilles, the latter of the Great and Little Bahama Bank. It extends almost 3,000 miles in one direction. The island of Cuba divides the gulf into

* On the E. of the Rocky mountains the prairie is nearly 1,000 feet above sea level; and the cold northern gales impart to the district an arctic winter. The droughts in summer are very injurious to husbandry, but they only occur every three or four years. The *Great American Desert* extends 500 miles W. of Utah, but has not the same sterility as those of the Old World.

two parts—that to the S. being called the *Caribbean Sea*, with a breadth of about 450 miles, extends about 2,000 miles from W. to E., its shores being lined by reefs and small wooded islands called *keys*. The term "gulf of Mexico" is now restricted to the N. part, which is united to the Atlantic by the strait of Florida, 120 miles wide. From N. to S. the breadth varies from 550 to 700 *m.*, with a length from E. to W. of 1,200 *m.*, and an area of 800,000 square *m.* The waters of the gulf of Mexico are 88° in mean temperature, while those in the Atlantic, in the same latitude, are only 78°. In winter there are furious winds, called "nortes," which impede navigation.

The Gulf of St. Lawrence, 300 *m.* long and 250 broad, has a threefold entrance into the Atlantic—viz., the strait of Belle Isle, the strait of Canso, and the main entrance. This gulf abounds with whales, lobsters, oysters, cod, herring, mackerel, and salmon, and is a valuable fishing station. Hudson Bay extends 900 *m.* from S.W. to N.E., and about 500 from E. to W..

Islands.—In the N.—*Prince Patrick, Melville, Bathurst, N. Devon, Greenland, Banks' Land, Prince of Wales, N. Somerset, Cockburn, Cumberland, Cornwallis, Ellesmere;* in the Atlantic—*Newfoundland, Cape Breton, Prince Edward, Anticosti, Long* island, the *Bermudas* or *Somers'* islands, and the *West Indies;* in the Pacific—*Vancouver, Queen Charlotte, Prince of Wales, Sitka, Kodiak, Chichagos, Nounivak, Aleutian* isles, and *St. Lawrence* or *Clarke* island.

Peninsulas.—The chief are—*Labrador, Nova Scotia, Florida, Yucatan, Lower California, Alaska, Boothia,* and *Melville.*

Isthmuses.—*Panama; Tehuantepec,* between the gulf of Mexico and the Pacific; and *Chignecto,* connecting Nova Scotia with the continent.

Straits.—On the N.—*Hudson, Davis, Barrow, Victoria, Dease, Penny, Prince of Wales, Banks, Simpson, Franklin,* all in the Arctic archipelago; on the E.—*Belle Isle, Canso, Northumberland;* and on the W.—*Behring's, Alaska, Queen Charlotte Sound, Juan de Fuca.*

Channels, Sounds, etc.—*Mona* and *Windward Passages,* E. and W. of San Domingo island; *Yucatan, Florida,* and *Bahama* channels, on the coasts of Cuba; *Hudson* st., N. of Labrador; *Fox Channel,* N. of Southampton I.; *Smith* sound, *Kennedy* and *Robeson* channels, N. of Baffin

Bay; *Jones'* and *Lancaster Sounds*, N. and S. of North Devon I.; *McClintock Channel* and *Melville Sound*, also in the Arctic archipelago.

Capes.—*Farewell*, S. of Greenland; *Walsingham*, on Cumberland I.; *Chudleigh* and *Charles* in Labrador; *Race* and *Ray* in Newfoundland; *Sable* in Nova Scotia; *Anne*, *Cod*, *May*, *Hatteras*, *Fear*, on the E. of the United States; *Sable*, *Antonio*, *Roxo*, *Palmas*, and *Catoche* in the *G.* of Mexico; *Gracias a Dios*, in the Caribbean Sea; capes *Mala*, *Blanco*, *Corrientes*, *St. Lucas*, *Concepcion*, *Mendocino*, *Blanco*, and *Flattery*, on the W. coast. On the N.W., *Elizabeth*, *Newenham*, and *Prince of Wales*; on the N., *Capes Lisburne*, *Icy*, *Barrow* and *Bathurst*.

Mountains.—The *Rocky* mountains, *Sierra Nevada*, *Cascade* range, and *Alleghanies*; the *Ozark*, in Texas; *Sierra Blanco*, the *Sierra de Sonora*, and *Sierra Madre*, in New Mexico and Mexico; the *Wotchish* mountains, in Labrador; the *Chigmit* mountains, in Alaska.

The **Rocky Mountains**, consisting of a broad belt of parallel chains, extend from Mexico to the borders of the Arctic ocean, about 1,000 *m.* being in the United States. They cover an area of 970,000 square *m.* Though the general direction of this stupendous range is N.W., yet that part of it which is in New Mexico is directly N. and S. About the centre of the United States several broad bands and lateral ranges are distinguishable. The *Bitter Root* mountains form an important connecting range in Montana. Several of the peaks are covered with perpetual snow. *Fremont's* peak (13,600 feet) seems the culminating point in the United States. The highest summits are situated on the border of British Columbia, where is Mount *Hooker* (15,690 ft.), and Mount *Brown* (16,000 ft.) about the 53rd parallel. The chain has a gradual decline northward; but even in 62° N. latitude peaks reach a height of 3,500 feet. Among other peaks may be mentioned—*Spanish Peak* (11,000 ft.), and *Pike's Peak* (11,497 ft.), in Colorado.

The **Sierra Nevada** is one of several *coast* ranges, parallel to the Pacific. It extends through California from the 36th to 41st parallel; and, as the name indicates, is snow-covered for the greater part of the year. Mount Whitney, their highest summit (15,020 ft.), is the highest peak in the United States.

The **Cascade** mounts are almost a continuation of the former, N. as far as the Fraser river; Mt. *Hood* (14,000 ft.) is the most prominent

peak. N. through Washington, Mounts *Adams*, *St. Helen's*, and *Baker* rise about 14,000 ft.: further N. it becomes broken and irregular.

The **Coast Range** runs from the S. bank of the Columbia river, parallel with and not far from the Pacific, being broken up by gorges, through which many rivers run on their course to the ocean. Between this range and the Sierra Nevada lies a large valley or hollow, almost 500 *m.* in length and 50 broad, a marked physical feature of California. It includes the well-known gold region.

The **Sierra de Sonora** skirts the *G.* of California on the E., and proceeds as far S. as Central America.

The **Alleghanies** or **Apalachian** mountains run from the gulf of St. Lawrence to Alabama, about 1,500 miles, but divided by the river Hudson into two parts; the one N. of it consisting of detached hills and irregular highlands; the other (about 1,300 miles long), S. of it, has an average breadth from 30 to 150 miles, and an average elevation of 2,500 ft. It consists of many parallel ranges, *Blue Ridge* being the largest, in which Mount *Mitchell*, in S. Carolina, rises to 6,470 feet. The ridges have different names—in Tennessee, the *Cumberland;* in New York, the *Catskill;* in Vermont, the *Green;* in New Hampshire, the *White mountains*. The second highest peak is Mount *Washington* (6,234 feet), in New Hampshire.

The **Ozark** mountains run from Texas, N.E., through part of Missouri, for about 300 miles, with an elevation under 2,000 feet.

The **Sierra Blanco** runs through New Mexico, terminating in Colorado, by a union with the Rocky mountains.

The **Sierra Madre** is separated from the above range by the Rio Grande river, and traverses the Mexican plateau from N. to S.

Plains.—The great central plain, triangular in shape, extending from the Arctic ocean to the mouth of the Mississippi. It is known as the Great Western plain; also the Prairies, and the Mississippi plains.

Rivers.—Into the Atlantic—the *St. Lawrence*, *Hudson*, *Connecticut*, *Delaware*, *Susquehanna*, *Potomac*, *James*, *Rappahannock*, *Roanoke*, *Savannah*, and the *Santee;* into the gulf of Mexico—the *Mississippi*, *Trinity*, *Brazos*, *Rio Grande del Norte*, and *Santander;* into the Pacific—*Colorado*, *Sacramento*, *Columbia*, *Fraser*, *Simpson*, *Francis*, and *Copper;* into the Arctic ocean—the *Colville*, *Mackenzie*, *Coppermine*, and *Great Fish river;* into Hudson's Bay—the *Churchill*, *English*, *Nelson*, and *Severn;* into Behring strait, the *Yukon*, one mouth of which is the *Kwichpak*. In Central America, the *San Juan*.

The *St. Lawrence*, the next in importance to the Mississippi, is 700 miles long, if taken from *L.* Ontario, or 2,200 if taken from its proper source, the St. Louis, a stream which falls into *L.* Superior. Geographers give to it a basin of 700,000 square miles, and some put forward the theory that the great lakes, through which it passes, are merely an expansion of itself; but we can scarcely concur in this view when we consider the comparatively small rivers which flow into *L.* Superior. Looking at the great body of water comprised in the five lakes, we may consider them as entirely separate from the river—a distinct physical feature in the North American continent. The St. Lawrence, therefore, properly begins at *L.* Ontario; and between this point and Quebec it can scarcely be surpassed for beauty and variety of scenery. In several places it is studded with islands fringed with trees; the country around in some districts rising to a considerable height, and anon sinking with a gradual swell. It receives on its north bank the *Ottawa*, the *St. Maurice*, and the *Saguenay*, all considerable rivers, draining a valuable lumber-producing district.* On the S. it receives the *Richelieu*, the *Francis*, and the *Chaudiere*. At Quebec the river expands into an estuary, and shortly forms the noble gulf of the same name, which contains the island of *Anticosti*, and is enclosed by the island of Newfoundland. On its banks are Quebec, Three Rivers, Montreal, Cornwall, Prescott, Ogdensburgh, and Brockville. Above 4,000 vessels enter it yearly. The chief ports of the St. Lawrence are Quebec (whose frowning rocks stand out in bold relief over the river, and remind the traveller of the immortal Wolfe) and Montreal, with very extensive commerce. This river is navigable above Montreal, by means of the canals, convincing proofs of the inhabitants' enterprise.

The Mississippi, the second largest river in the world, rises in Lake Itasca, in Minnesota, 1,700 ft. above the water level at its mouth. It receives on the west the Missouri, the Arkansas, and the Red River, and on the east the Illinois, the Ohio, and the Tennessee. After a course of 3,200 miles, it discharges by many mouths into the gulf of Mexico. The basin of the Mississippi is above 1,300,000 square miles, and is, without exception, the richest district in the world. The river is navigable for about 2,200 miles, and the Missouri almost to the base of the Rocky mountains. Its average breadth is 1½ miles; the depth of the waters in its lower course 150 feet. Before it travels far it becomes an important stream, in some places broad, with an almost imperceptible current; in others narrow and rapid, running between limestone bluffs, 1,500 feet high, "a deep and moaning current," it wends its way for 1,100 miles, to the falls of

* This lumber, or timber, is floated down from the interior, and thence by the St. Lawrence to Quebec, where it is shipped to "the States" and Europe.

St. Anthony, which may be compared to Niagara almost for sublimity and grandeur. Further on its current is broken by rapids at the mouths of the Rock River and the Des Moines, after which its course is tame to the city of St. Louis. Its tributaries are almost innumerable. On receiving the Missouri the width is about a mile and a half, but on receiving the Ohio the width appears to contract rather than expand. Now the current becomes furious, a mass of sweeping waters with jagged and dilapidated banks, the impetus of the current now propelling it on an island, now on a sand-bar, rendering its navigation both difficult and dangerous. The annual flood commences in March and subsides about the end of May. Below the mouth of the Ohio the medial flood is 50 feet, which declines before it reaches Natchez, and is only 30 feet; at Baton Rouge at 12 feet. At the river's mouth large trees are borne down the stream, and becoming embedded in its bottom, renders navigation still more dangerous. Multitudes of steamers ply on its broad bosom, conveying passengers and merchandise quickly from New Orleans to Pittsburg on the one side, and almost to the very base of the Rocky mountains on the other. Large quantities of mud are also carried down by the stream, and deposited in its great alluvial delta; this district is covered with tropical vegetation, and the intense heat, acting on the damp marshy soil and decayed vegetation, produces fevers and numerous other epidemic disorders. New Orleans is the chief river port, and is now a healthy place. On its banks are—New Orleans, Baton Rouge, Natchez, Vicksburg, Memphis, St. Louis, Quincy, Galena, and St. Paul—from the first to the last-named being 1,950 miles by the course of the stream: and this mighty river forms a portion of the boundaries of ten states.

The Missouri, "muddy river," rises in the Rocky mountains in Montana, first flows N., then N.E., then E. into Dacota (on the borders of which it receives the *Yellow Stone*, which has two tributaries, each several hundred miles long, flowing northwards from Wyoming, the *Big Horn*, and the *Powder*), which it traverses from N.W. to S.E. It forms the boundary between Iowa and Nebraska, and joins the Mississippi a little N. of the city of St. Louis. Going up the river, we meet Jefferson City, Nebraska, Omaha, Yangton, and Fort Union. This is a larger river than the Mississippi at their junction; but the latter having been first explored, the name was retained. The Missouri is at least 3,000 *m.* long, being navigable for 2,500 *m.* at high water. The *Nebraska* or *Platte*, a shallow tributary from the Rocky mountains, joins it at Omaha after a course of 1,000 *m.* Among its feeders in Montana and Dacota are the *Marias* and *Milk* rivers, which join it on the left bank; the *Little Missouri*, *Shyenne*, and *White* rivers, which it receives on the right bank.

The **Arkansas** is formed of several streams, which rise in the mountains of Colorado. It flows E., with considerable windings, through Kansas, the Indian territory, and almost bisects Arkansas, joining the Mississippi at Napoleon. The towns on its banks are Little Rock, Van Buren, and Colorado city near its source. The *Canadian* river is its largest tributary.

The **Red River** rises in New Mexico, forms the N. boundary of Texas, passes Paris, Fulton, and Alexandria, and joins the "Great River" midway between Baton Rouge and Natchez.

The **Ohio**, the most important tributary, is formed of two streams, the *Alleghany* and the *Monongahela*, which unite at Pittsburg, where it is 850 feet above sea-level. It has a gentle current, unless in times of high floods. Near Louisville there are rapids, which are avoided by a canal. In winter its upper waters are frozen. It is about 1,250 miles long, and in time of floods is navigable for the largest vessels up to Pittsburg about 1,000 miles. The towns on it are Wheeling, Cincinnati, Madison, and Evansville.

The **Illinois** flows through the state of the same name, and joins the Mississippi a little before it reaches the Missouri. Generally speaking, the country it traverses is flat and the stream sluggish, the banks being lined with fine trees. A canal connects this river with the great city of Chicago.

The **Tennessee** has a winding and irregular course, and joins the Ohio in the W. of Kentucky.

We shall briefly refer to the other rivers under the description of the various states to which they more immediately belong.

Lakes.—The following are the most important lakes:—*Superior*, *Huron*, *Erie*, and *Ontario*, between the United States and the Dominion of Canada, *Michigan* in Michigan; *Champlain* and *George* in the N.E. of the United States; *Athabasca*, *Wollaston*, *Deer*, *Winnipegosis*, *Manitoba*, *Winnipeg*, *Great Slave*, *Lake of the Woods*, Lake *St. John*, *Temiscaming*, *Simcoe*, *Nipissing*, and *Great Bear* lakes in British America; *Chapala* in Mexico; *Nicaragua* and *Leon* in Central America; *Itasca* in Minnesota; *Okee-Chobee* in Georgia; *Great Salt Lake* in Utah, Lake *St. Clair*, between Michigan and Ontario.

TABULAR VIEW OF THE AMERICAN LAKES.

Lakes.	Area in Sq. Miles.	Length and Breadth (roughly).	Depth in Feet.	Feet above Sea Level.	Circumference.
					Miles.
Superior*	32,000	450 by 80	600	627	1,750
Huron†	21,000	240 by 90	800	574	1,100
Michigan‡	22,000	350 by 80	900	580	
Great Slave Lake§	18,000	300 by 50			
Erie‖	11,000	240 by 45	110	565	
Great Bear Lake	13,000	250 by 240	400	230	
Winnipeg	18,000	370 by 120			
Athabasca	4,500	230 by 24	500	262	
Ontario¶	6,000	180 by 35	500	230	480
Lake of the Woods	2,000	70 by 70			
Nicaragua	2,000	110 by 35		128	
Great Salt Lake**	1,500	70 by 30	8	4,000	
Champlain	600	109 by 12	700		

GREENLAND OR DANISH AMERICA.

Greenland, owing to the extreme severity of the climate, is very imperfectly known. It chiefly consists of a cluster of ice-bound islands, inhabited by a short and fat race, who mostly live on the flesh of seals. In the interior the surface is hilly and bare; cereals cannot be raised, but skins of seals, rein-deer, eider-down, whalebone, and train-oil are exported.

Godhavn, on *Disco* island, is the rendezvous of the whale fishers. A few other Danish stations are along the coasts, Upernavik being the most N. It is a place of call for whalers and Arctic explorers.

* Largest body of fresh water in the world; shores sterile and rigid.
† Its shores are bold and rocky, with very few harbours.
‡ It is surrounded by a fertile country, and has many good harbours.
§ It is in so dreary a region that little is known about it.
‖ The land around is rich and alluvial, being admirable for wheat. Railroads and canals afford convenient means of communication with all the large towns. This L. is becoming shallower from sediment being deposited at its bottom.
¶ The rapids of the river from this lake are overcome by a canal.
** This lake, which overflows its banks, is so salt that one quart of salt can be obtained from four quarts of water.

BRITISH AMERICA.

British N. America* extends at least 3,000 miles from the Atlantic to the Pacific, and 1,600 miles from N. to S., with an area estimated at 3¼ millions of square miles, and a seaboard of 4,300 miles, of which only 1,200 are open during the whole year.

It lies N. of the parallel of 42° N. latitude, and between 54° and 141° W. longitude. The 49th parallel forms the boundary in the W. of the "Great Lakes," between British America and the United States. The Isle of *San Juan* in the Pacific has been awarded by arbitration to the United States.

British America is characterised by magnificent rivers and lakes, splendid fisheries, rich and varied mineral wealth, fertile soil, and a healthy climate, with admirably developed canal and railway systems.

The physical regions of this immense district may be arranged under—I. The tract beyond the Rocky Mountains. II. The basin drained into the Arctic Ocean. III. The basin of the St. Lawrence. IV. Hudson Bay basin. V. The Arctic Archipelago.

The **Dominion of Canada**† was formed by Act of Parliament, in 1867. This extensive country borders on the Great Lakes, which separate it from the United States on the S.W. From *L.* Ontario, the St. Lawrence is the boundary as far as Cornwall, where it runs directly E., touching *L.* Champlain on the extreme N., and going as far as the Connecticut river, on the confines of Vermont and New Hampshire. A mountain ridge, running N.E., now becomes the boundary as far as the St. Francis, a tributary of the river, St. John. Chaleur bay and the river Patapediac separate it on the east from New Brunswick.

* The Government is vested in a Governor-General, aided by a Privy Council, also an Upper House or Senate of 72 members, appointed for life by him, and a House of Commons of 181 members, elected every five years.

† It possesses a reserve force of about 700,000 militia.

DOMINION OF CANADA.

Provinces.	Area Sq. Miles.	Population.	Capitals.
Ontario -	121,260	3,672,116	Toronto (*L. Ontario*).
Quebec -	210,000		Quebec (*St. Lawrence*).
New Brunswick -	27,105	285,777	Fredericton (*St. John*).
Nova Scotia -	18,620	387,800	Halifax (*Coast*).
Rupert's Land -	2,720,000	270,000	Fort York (*Nelson*).
British Columbia -	213,000	85,000	Victoria (*G. of Georgia*).
Prince Edward Isle	2,173	94,500	Charlottetown (*Hillsboro' R.*)
Manitoba -	14,350	12,000	Winnipeg.

Canada, an important possession of the British crown, is divided into two rather unequal parts by the river Ottawa, lying between the parallels of 45° and 50°, and is about 1,300 *m.* long, and from 100 to 350 broad. *Ontario* is almost a uniform plain, varied by gentle undulations; while *Quebec* abounds with mountains, forests, rivers, lakes, with a bold and rocky eastern shore. It has a long and rigorous winter, extending from the middle of October to the middle of April; but has great extremes of temperature. The inhabitants in winter adopt warmer clothing, consisting of furs, &c., drive in light carriages or sleighs drawn by one horse, visit their friends, and indulge in out-door amusements. In this season also the trees are hewn in the lumber districts, and floated down the rivers on the approach of spring, to the St. Lawrence, whence much of the timber is shipped to Great Britain and other countries. Wood is used everywhere for fuel, even for the steam-boats on the lakes and rivers. *Ontario*, with a climate less excessive and a shorter winter, produces abundant crops of wheat, oats, maize, barley, potatoes, tobacco, flax, and hemp. The peninsula between Lakes Huron and Erie is exceedingly productive of wheat. Here also rich wells of petroleum have been discovered. Quebec

has also an important trade in furs, and the fisheries of the Dominion are the most valuable in the world. The isle of *Anticosti* belongs to the province of Quebec.

Ottawa (22,000) (*Ottawa*) is a well-built city, with beautiful public buildings, the most attractive being the New Parliament House. Selected as the capital, in a kind of neutral position, and far from the United States border, it is central and appropriate. It is a great centre of the lumber trade, the timber coming down the river in great quantities, whence it is forwarded to Quebec. It has a large number of saw mills. In winter the temperature is sometimes 26° below zero.

Montreal (130,000), the largest and most commercial town in Canada, is on an island in the St. Lawrence, which is here spanned by the *Victoria* railway bridge, two miles long, consisting of 24 spans of 242 feet each, and one in the centre 330 feet. The Grand Trunk Railway passes over it. Montreal has an Anglican and a Catholic cathedral, splendid docks, and great export trade in butter, cheese, &c.; but is unhappily every fourth year visited by destructive floods.

Quebec (65,000), a walled picturesque town, on a promontory overlooking the St. Lawrence, called Cape Diamond, is a busy shipping port in timber. It has a university, two cathedrals, and numerous public institutions of great merit. Its climate is cold. Since the introduction of iron ships, the building of wooden vessels has declined. It is 700 *m.* from the Atlantic; the tide rises 20 feet: language mostly French. It was taken from the French, 1759, and the province, ceded 1763. **Toronto** (50,000) (*L. Ontario*), a university city, on a gently rising elevation, bordering a capacious bay, presents an imposing appearance. It is the great emporium of Canadian grain trade, of which it exports immense quantities; its wharves extending three miles. Five lines of railway run from the town, which has also hat and cap manufacture. It has two cathedrals and a Normal school. It was burnt by the Americans in 1813. **Kingston** (15,000) (*L. Ontario*) is, next to Quebec, the strongest town in Canada. Several islands lie near in the lake. It is an important manufacturing town. **Hamilton** (23,000), on the W. side of the lake, is of great commercial importance, a market for the surrounding country, as well as a seat of extensive manufactures. **Belville** (10,000) has iron works and marble quarries in the neighbourhood. **Coburg** (9,000) (*L. Ontario*) has a good harbour. **Port Hope** (4,000), and **Oshawa** (2,500), are important stations on the Grand Trunk Railway. **Brantford** (9,000) is a town with transit trade. **London** (20,000) (*Thames*) has wide and regular streets, and

handsome public buildings. **Chatham** (9,000) (*Thames*) is an important railway station near *L.* St. Clair. **Woodstock** (4,500), in the midst of a cattle-rearing and wheat-growing district, has good schools, hotels, etc. It is on the Great Western railway. **Enniskillen** has valuable oil springs. **Niagara*** (2,000) is a small town with great transit trade between Canada and New York. **Brockville** (4,000) (*St. Lawrence*), and **Guelph** (5,000), inland, are stations on the Grand Trunk Railway. **Three Rivers** (7,000) (*St. Lawrence*), midway between Quebec and Montreal, is built of wood. It has an extensive timber trade. **Gravenhurst** (*L.* Muskoka) is a resort of tourists for the northern lakes. **Bracebridge**, on same lake, is in the Free Grant Lands, and is a healthy fishing and fowling district.

Among the less known towns, with at least 3,000 inhabitants, may be mentioned—*Bagot*, *Barrie*, *St. Paul's Bay*, *Brome*, *Cape Santé*, *Compton*, *Dundas*, *Edwardsburg*, *Egremont*, *Fitzroy*, *Gloucester*, *Lancaster*, *L'Islet*, *Madoc*, *Matilda*, *New Glasgow*, *Newmarket*, *Orillia*, *St. John's*, *St. Joseph*, *St. Maurice*, *St. Thomas*, *Shefford*, *Sherbrooke*, *Sorel*, *Stanstead*, *Westminster*, and *Windsor*.

New Brunswick† lies on the gulf of St. Lawrence, between Canada on the N., Nova Scotia on the S., and the United States on the W. It is, in many places, densely covered with plantations of lofty pines; has important fisheries, abundance of coal: antimony, copper, and lead are found. Cereals and green crops are extensively cultivated. The climate is hardly so extreme as that of Canada.

Fredericton (7,000) (*St. John*) is a central trade mart. **St. John's** (20,000) is the commercial capital of the province. It is frequently wrapped in a dense fog. **Woodstock** (5,000) (*St. John*) has lumber trade.

Nova Scotia, discovered by Cabot, in 1497, was first colonized by the French, from whom it was taken by the

* The Niagara river is only 33 miles long, extending from L. Erie to L. Ontario; and the Falls are within a few miles of the latter. Two miles above the Falls the grandest rapids in the world occur. There are three Falls—the *Horse Shoe*, or Canadian Fall, 2,000 feet wide, and 154 feet high; the *American Fall*, 660 feet wide, and 165 feet high, and the *Central Fall*, 243 feet wide, and 165 feet high. *Goat Island* is between the first and second, and a rock between the second and third. Three miles below the Fall is the whirlpool, caused by an abrupt turn in the river. Two miles below the Fall is the International Suspension Bridge, affording a pedestrian, carriage, and railway thoroughfare.

† Its inhabitants include the descendants of the French, to whom it belonged until 1763, the descendants of the Royalists who left the United States after the peace of 1783, British settlers, and a few Indians.

English in 1627, but restored in 1632. At the peace of Utrecht (1713) it was ceded to England. One-fourth of the inhabitants is engaged in agriculture—the forests are important. Coal and iron are plentiful, and gold has been found. Codfish are caught off the E. coast all the year round; mackerel are in great numbers, and salmon still more plentiful in the rivers. The climate is agreeable and healthy.*

Cape Breton, separated from Nova Scotia by the Gut of Canso, is now politically united with it.

Halifax (30,000), with one of the finest harbours in the world, is an important British naval station, strongly fortified. This is the nearest harbour to the British Isles, being only 1,800 miles from Galway. It is a great fish market; and lobsters are exceedingly plentiful.

Louisburg, the capital of Cape Breton, is almost in ruins. Annapolis has a good port, and Liverpool has active trade. Windsor (*Avon*) has trade in gypsum.

Rupert's Land,† lately incorporated with the Dominion of Canada, and formerly known as Hudson's Bay or N.W. Territory, consists of an immense tract W. of Canada, N. of the United States, and E. of British Columbia. It includes most of the Arctic regions, already named. The surface is marshy and flat, interspersed with large lakes; and the rivers seem to hesitate in what direction to flow. It is chiefly a fur-producing district, inhabited by Indian tribes, the climate being too severe, unless in a few favoured valleys, for colonization.

York Fort, on Hudson's Bay, is the chief station.

Manitoba, with an admirable climate, lies 50 miles N. of Minnesota, from which it receives the Red River, which is frozen from November to April. It is in the very centre of North America, 2,000 miles W. of Montreal, and 600 *m.* from Hudson Bay. The population consists of French,

* The inhabitants, though of very different origin, are now much intermixed. They consist of descendants of French, Americans, English, Scotch, Irish, Germans, and Swiss, with a few Negroes and Indians, all tolerant, hospitable, enterprising, and industrious. Generally speaking the country is dreary, and the soil poor.

† The Hudson's Bay Company was formed in 1670 "under the auspices of Prince Rupert" (to whose memory this district is now named), for the purpose of trade in furs, fish, etc., chiefly got from the Indians, at the forts, in barter. *Manitoba*, the part under a regular government, is represented in the Dominion Parliament by four members, and was until lately known as the *Red River Settlement*.

Canadian, British, and Scotch settlers, the latter chiefly from Sutherland, introduced by the Earl of Selkirk. The resources of this country consist of iron, gold, and coal, with a climate, though consisting of eight months in the year of frost, suited for the production of cereals. Indeed there are immense tracts of the best wheat-growing country.

Winnipeg (5,000) has saw, planing, and woollen mills; also many factories.

Pembina, near the United States border, is the chief town for trade with that country, though Fort Garry is better known.

British Columbia lies beyond the Rocky mountains, and includes Vancouver, Queen Charlotte, and the other adjacent isles (which give excellent timber), with which it was incorporated, 1866. This district extends from 49° to 55° N. latitude, and from 115° to 132° E. longitude. The colony was formed in 1858, and obtained a regular legislative council in 1863. It possesses admirable agricultural and pastoral capabilities, mineral wealth, splendid timber forests, an indented coast, offering great commercial facilities.

Vancouver Island, with an area of 16,000 square miles, is mostly mountain and barren rock, but densely wooded. It is separated from the mainland by Johnston *St.*, the *G.* of Georgia and *St.* of Juan de Fuca. Gold, coal, and cereals are the chief productions. Fish and fowl are abundant. The climate has a close resemblance to that of the British Isles.

In British Columbia the Rocky mountains are very irregular, but generally in three chains. The passes are more accessible than those further south. *Yellow Head Pass*, at the head of the Fraser river, is 3,703 feet, *Vermilion*, 4,944 feet, and *Kanaskis*, 5,980 feet above sea-level.

Victoria (6,000) (*G. of Georgia*), on Vancouver isle, a free port, is the capital of the colony. New Westminster (*Fraser*) is a small town. Cariboo is the chief seat of the gold-diggings. Fort George (*Fraser*) is the nearest town to these diggings. Nanaimo (*Vancouver I.*) ships large quantities of coal. Yale and Lytton are small towns on the Fraser river of modern growth.

Prince Edward Island* is a crest-shaped "green isle" of the gulf of St. Lawrence, with greatly indented shore, a fertile soil, a rather mild climate, and an undulating surface. Oats is the principal grain crop; horses are largely exported; and agriculture and fishing are the chief industries. It is free from the fogs of Newfoundland, but in winter the climate is severe, the whole gulf being frozen over; and more than one-half of its inhabitants are of Scotch descent.

Charlotte Town (7,000) (*Hillsboro' R.*), in a picturesque site, is the only place of importance in the island. Rustice, an old French town near magnificent oyster beds, and Summerside, are sea-side resorts.

NEWFOUNDLAND,†

Newfoundland is a large island on the N.E. side of the gulf of St. Lawrence. It is computed that one third of the surface consists of lakes, swamps, and pools; but its fisheries are valuable, and form the chief occupation of the people from May to October. Seals are hunted in March and April. It is noted for "fogs, dogs, and fish." Wheat, oats, and turnips are produced. The French have two fishing stations, *St. Pierre* and *Miquelon*, both near the S. coast. *Area*, 40,000 square miles; *population*, 161,500.

St. John's (29,000) is a town of much commercial importance, with a good harbour, well defended, and open at all seasons.

St. Andrew's (7,000) is a rising place.

Labrador is now a dependency of the above. Its climate is very severe, but its fisheries are valuable, particularly that of seals. Cod and salmon are also caught. The bays are only open from June to September, and few people remain here during its severe winter.

Nain Fort, the capital, has an annual temperature of 7° below zero.

* So named from the father of Queen Victoria, Edward, Duke of Kent, who was for some time a popular commander-in-chief in British America.

† It was discovered by Cabot, a native of Bristol, 1497; colonized by Sir George Calvert (Lord Baltimore), 1623; was long the scene of rivalry between the French and English fishermen, until it was ceded to England in 1713. It has had a Governor and a House of Assembly since 1832.

Fisheries.—Besides the rich cod fishery of Newfoundland, the great lakes are stocked with trout, herring, pike, bass, and "white fish."

Mountains.—The La Cloche mountain or table-land runs north from the E. end of Lake Huron. Some hills are in New Brunswick, and the Wotchish mountains run through the province of Quebec.*

Rivers.—The St. Lawrence has already been described. Its most important tributaries are the *Ottawa*, 800 miles long, the *St. Maurice*, which issues from *L.* Crossways, 250 *m.*, and *Saguenay*, rising in *L.* St. John, with a course of 200 *m.* These three rivers water the best lumber district in the world. The *Richelieu* runs from *L.* Champlain.

The Mackenzie is one of the great rivers of the globe. It rises in Mount Brown (Rocky Mountains), and is first known as the *Athabasca*, and a more N. feeder, *Peace* river; then again *Slave* river. It passes through *G.* Slave Lake, and, under the name *Mackenzie*, enters the Arctic ocean; with its upper waters, the *Athabasca* is 2,000 *m.* long.*

The Saskatchewan is formed of several streams from the Rocky mountains in the S.W. of Rupert's land. It enters *L.* Winnipeg, and under the name *Nelson*, enters Hudson Bay. Its course is about 1,600 *m.*

The Assiniboine runs E. through Manitoba, is joined by the *Red River* (only 70 *m.* of which is in British territory) from the United States, and enters Lake Winnipeg.

The other rivers are:—*Into Hudson Bay*†—the *Great* and *Little Whale*, *Main*, *Rupert*, *Moose*, *Albany*, *Severn*, *Hayes*, and *Churchill or English*; *into the Artic ocean*—the *Great Fish*,‡ and *Coppermine*; the *Thames* into Lake St. Clair; in British Columbia—the *Fraser* (flowing into Vancouver's sound), the *Simpson* and *Stickeen*, further N.

Lakes.—The lakes may be divided into three classes:—(*i.*) those drained into the Arctic ocean—*Great Bear*, *Great Slave*, *Athabasca*, *Wollaston*, *Aylmer*, and *Deer* lakes; (*ii.*) those drained into Hudson Bay—*Winnipeg*, *Winnipegosis*, *Granville* and *Manitoba*; (*iii.*) those drained by the St. Lawrence—*Lake of the Woods*, *Superior*, *Michigan*, *Huron*, *Erie*, and *Ontario*. See pp. 55 and 417. Among the less known lakes are Simcoe,§ Couchiching, Muskoka, Sparrow, Rosseau, Joseph, and Skeleton Vernon.

Education.—There is an admirable educational system in Canada. The schools, which are numerous, are chiefly supported by local taxation, and placed under Government inspection. There are Universities at Toronto and Kingston. In free libraries, literary clubs, lecture halls, and mechanics' institutes, Ontario is far in advance of the United Kingdom of Great Britain and Ireland. The inhabitants of Quebec are of French origin, and use the French language. Those of Upper Canada are mostly from the British Isles.

* First explored by Mackenzie, a Scotchman, in 1789.
† This bay is only open for commerce two months in the year.
‡ At its mouth the survivors of the Franklin expedition perished, about 1848.
§ The largest in Ontario; it is 30 *m.* long and 20 broad, and beautifully wooded.

Railways.—The *Grand Trunk* runs from Portland, on the Atlantic, N.W. to Richmond, whence it extends E. almost along the bank of the St. Lawrence to Cæsarville; from Richmond it runs W., passes over the river at Montreal, goes along the north bank of the river, along the coast of L. Ontario, to Toronto, thence directly W. to Sarnia, and ends at Detroit. The "Great Western of Canada" connects Toronto with Windsor, on the American frontier—See *Toronto*.

Canals.—The *Welland* and the *Erie* are the principal, constructed on the Canadian side round the Falls of the Niagara.

UNITED STATES.*

The United States extend from British America to the *G.* of Mexico, and from the Atlantic to the Pacific. The most northern point is Barrow Head; and most western cape, Mendocino. The average length from E. to W. is about 2,500, and from N. to S. 1,300 *m.* There are about 6,000 *m.* of coast line.

The Government consists of a *President* ‡ elected every four years by the *House of Representatives*, consisting of 369 members, elected by the thirty-eight States of the Union. There is also the Senate House, consisting of 76 members, two from each State. The meeting of the Legislature is called the *Congress*.

The *surface* of the United States consists of the Atlantic highlands, and most of the Pacific highlands, with their slopes and lowlands. A sufficient description of these has already been given. This is a country of immense industrial resources, boundless national wealth: spirited, enterprising, and ingenious habits.

SIX NORTH-EASTERN STATES.—NEW ENGLAND.

States.	Area, Sq. miles.	Population.	Capitals.
1 Maine, - -	32,628	626,463	Augusta (*Kennebec*).
2 New Hampshire†	9,411	318,300	Concord (*Merrimac*).
3 Vermont, - -	10,212	330,552	Montpelier.
4 Massachusetts,†	7,500	1,457,351	Boston on *Massachusetts B.*
5 Rhode Island,† -	1,340	217,356	Providence (*Providence river*), Newport (*Atlantic*).
6 Connecticut,† -	4,761	537,418	Hartford (*Connecticut*). New Haven.

* These consisted originally of thirteen states (marked thus †) which achieved their independence in 1783. The essence of the constitution consists in its giving power to each state to legislate for itself, subject to the imperial legislature. The territories are governed directly by persons appointed by the imperial government.

‡ He is Commander-in-Chief of the army, appoints ambassadors, and has other important privileges. The Vice-President is chairman of the senate, whose members are elected for six years.

SIX MIDDLE STATES.

States.	Area.	Population.	Capitals.
7 New York,†	47,000	4,364,411	Albany (*Hudson*).
8 New Jersey,†	8,320	905,794	Trenton (*Delaware*).
9 Pennsylvania,†	44,000	3,515,993	Harrisburg (*Susquehanna*).
10 Delaware,†	2,120	125,015	Dover (*Jones R.*)
11 Maryland,*†	13,950	780,806	Annapolis (*Severn*).
12 Virginia, W.†	20,000	445,616	Charleston (*Kanawha*).

FIVE SOUTH-EASTERN STATES.

13 Virginia, E.*†	43,300	1,225,000	Richmond (*James*).
14 North Carolina,*†	48,000	1,069,614	Raleigh (*Neuse*).
15 South Carolina,*†	28,000	728,000	Columbia (*Congaree*).
16 Georgia,*†	62,000	1,200,609	Atlanta (*Oconnee*) (*Chattahoochee*).
17 Florida,*	45,000	187,756	Tallahassee.

SEVEN SOUTHERN STATES.

18 Alabama,*	50,722	996,961	Montgomery (*Alabama*).
19 Missi-sippi,*	45,760	834,170	Jackson (*Pearl*).
20 Louisiana,*	48,220	732,731	Baton Rouge (*Mississippi*).
21 Texas,*	274,000	797,500	Austin (*Colorado*).
22 Arkansas,	52,000	483,179	Little Rock (*Arkansas*).
23 Tennessee,*	40,000	1,257,983	Nashville (*Cumberland*).
24 Kentucky,*	42,000	1,321,000	Frankfort (*Kentucky*).

FIVE NORTH-CENTRAL STATES.

25 Ohio,	39,128	2,659,214	Columbus (*Scioto*).
26 Michigan,	60,000	1,184,296	Lansing (*Grand river*).
27 Indiana,	37,000	1,673,046	Indianapolis (*White river*).
28 Illinois,	52,000	2,539,633	Springfield (*Sangamon*).
29 Wisconsin,	54,000	1,055,167	Madison (*Rock river*).

* Slave States before the late war.

SIX WESTERN STATES.

States.	Area.	Population.	Capitals.
30 Missouri,	63,000	1,715,000	Jefferson City (*Missouri*).
31 Iowa,	50,000	1,191,802	Des Moines (*Des Moines*).
32 Minnesota,	60,000	435,511	St. Paul's (*Mississippi*).
33 Kansas,	80,000	362,872	Topeka (*Kansas*).
34 Nebraska,	120,000	123,000	Omaha (*Missouri*).
35 Colorado,	106,000	39,706	Denver (*Sth. Platte river*).

THREE PACIFIC STATES.

36 California,	189,000	560,285	Sacramento (*Sacramento*).
37 Oregon,	100,000	120,000*	Salem (*Willamette*).
38 Nevada,	126,000	42,491	Carson City (*Carson*).

THE TEN TERRITORIES AND ONE DISTRICT.

1 Washington,	61,000	23,901	Olympia (*Puget Snd.*)
2 Dacota,	152,000	14,181	Yankton (*Missouri*).
3 Idaho,	69,000	14,998	Boisé (near the *Snake*).
4 Montana,	143,000	20,594	Virginia (*Missouri*).
5 Utah,	106,000	36,786	Salt Lake City (*Jordan*).
6 Arizona	95,000	9,658	Tucson.
7 New Mexico,	101,000	91,852	Santa Fé.
8 Wyoming,	89,600	9,118	Laramie Ft. (*North Platte*).
9 Alaska,	577,000	30,000	Sitka (*Sitka I.*)
10 Indian Territory,	——	——	Fort Washita (*Washita*).
11 Columbia,	60	131,080	Washington (*Potomac*).

Different arrangements have been made in the classification of the States; and the terms "Atlantic States," "Gulf States," "Pacific States," &c., are in common use among geographers.

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1. **Maine** borders on New Brunswick and Canada, being separated from the former by the rivers *St. Croix* and *St. John*. Its surface is hilly, extensively wooded in the N. by fir,

* Population in 1876, which includes 16,000 Chinese.

pine and beech trees. It is watered by the rivers *Penobscot* and the *Kennebec*, and combines commercial, manufacturing, and agricultural industries, together with fisheries on an extensive scale; cottons, woollens, and lumber trade being the staples. It was annexed in 1820.

Augusta (9,000) stands on the Penobscot. It has an arsenal. Bangor (18,289), a great lumber depôt, is on the Penobscot. Portland (31,413) (*Casco B.*), the largest and wealthiest town in the state, has a secure harbour and active trade, particularly in winter, when it is used as a harbour for Canada, the Grand Trunk Railway running thence to Montreal. Bath (8,000) has extensive ship-building. Lewiston (13,600) is of modern growth.

2. New Hampshire has only 18 miles of coast line, is low towards the Atlantic shore, but gradually rises towards the interior, where the *White* mountains, well known for their sublime scenery, reach an elevation of 4,000 feet.

Concord (12,241), a great railway centre, is noted for literary taste. It has an excellent library. Portsmouth (11,000) is an active port and an important naval station. Nashua (10,343) is coming into note. Dover (8,000) is the seat of ship-building and important manufactures. *Hanover* has Dartmouth college. Manchester (23,536) is an important manufacturing town.

3. Vermont seems to have derived its name from the "Green mountains," and the verdant cedar and pine forests which cover a good deal of its surface. It possesses good marble and slate quarries—annexed in 1791.

Montpelier, the capital, is a small town. Burlington (9,000), nicely situated on Lake Champlain, is a more important town.

4. Massachusetts*—noted for its manufactures of textile fabrics, fisheries, extensive commerce, and literature—though naturally sterile, is now, from the great industry of the inhabitants, exceedingly productive. It is drained by the *Merrimac* and the *Connecticut*. Nearly one-third of all the cotton and woollen goods of the Union is produced here, and the fisheries are exceedingly valuable.

* So named after an Indian tribe, its former occupants.

Boston (250,526) (*Charles*), connected with the interior by river, rail, and canal, ranks as the first city of the United States in literature. It is called the "Pride of New England," for which it is the commercial emporium. It stands on an uneven promontory, jutting out into the bay, and is the centre of trade in ice, which is obtained from *Wenham Lake*, in its vicinity, and shipped to London, India, and France. Printing and publishing are extensively carried on here as well as in every large town in the Union. It is the birth-place of Dr. Benjamin Franklin; and here the insurrection broke out, 1775. This city has the largest organ in the United States. Its harbour is safe, deep, and well protected by islands. Near is *Bunker's Hill*, where the royalists defeated the Americans, 1775. Cambridge (40,000), four miles from Boston, has the Harvard university, founded 1638, and attended by about 1,000 students. Lynn (28,233), a little more north, is the greatest town in the world for ladies' boots and shoes, of which 5,000,000 pairs are made every year. Lowell (41,000) (*Merrimac*) is a rising town, with so much cotton-making that it is called the "Manchester of America." It has also linen, carpets, and woollen factories. New Bedford (21,000) is the head-quarters of the American whale fishery. Lawrence (30,000) is a few miles from Lowell. Here is the largest cotton and woollen mill in the world. It covers 16 acres. Worcester (41,000) is a very handsome town, with important railway traffic. Springfield (27,000) (*Connecticut*) has an arms factory and cotton trade. Northampton has silk manufactures. Plymouth (6,000) contains *Pilgrim Hall*, which commemorates the landing of the Pilgrim fathers here from England in the good ship Mayflower, 1620. Fall River (27,000) has active shipping trade. Taunton (10,000) has hardware trade, and at Waltham there is the greatest watch factory in the world.

5. **Rhode Island,*** the smallest state in the Union, is a very good manufacturing district, with splendid dairies, and prolific fruit gardens.

Providence (69,000) has extensive commerce and numerous manufactures of cottons and woollens. Newport (12,000) is a favourite watering-place.

6. **Connecticut**, divided almost equally by a river of the same name, is famed for the variety of its manufactures, and the intelligence and industry of its inhabitants.

Hartford (37,180) (*Connecticut*), in the interior, and Newhaven (50,000) (*Long I. Sound*), a more important town, are used as capital alternately. The latter has been called the "city of elms," and contains Yale College, with a splendid library. It is a good manu-

*It derives its name from a small island near the shore, 17 *m.* long and 3 broad.

facturing town. Norwich (16,500) and Bridgeport (18,000) are modern towns of growing importance. The latter has traffic with New York.

7. **New York** is the most important, most populous, and most industrial state of the Union. It lies S. of Canada and N. of Pennsylvania, and is almost as large as England. It is washed by lakes Ontario, Erie, and Champlain, and watered by the *Hudson*,* the *Mohawk*, and the *Genesee*. This state has every variety of industry. *Mount Marcy*, with the mineral springs of *Saratoga* and *Ballston* at its base, rises to 5,300 feet. The climate, though healthy, is severe in the north, but mild in the south.

Albany (70,000) (*Hudson*), the state capital, is 145 *m.* from New York, has a university, the state hall, and a military academy.

New York† (942,292) (*Hudson*), called the "Empire City," stands on Manhattan Island, which, with Staten‡ and Long Islands, encloses a spacious harbour. The streets are wide, public buildings elegant, shops and hotels exquisite. This is the largest and most commercial city in the Union, being the American emporium of political, social, monetary, and commercial life. The houses are generally of brick One street, *Broadway*, with a width of 80 feet, extends N.E. for four miles. Among the public buildings are the City Hall, Custom House (of white marble), the Hospital, Exchange, Arsenal, and Crystal Palace. Its industry consists of extensive commerce with all the chief ports of the world, manufactures of steam machinery, ship-building, etc. It is supplied with water by the Croton river, a distance of 33 miles. In this city every one rises early, and works hard.

Brooklyn (396,000) (*Long Island*), which may be considered the dormitory of New York, is the principal naval station. It has a white marble City Hall. Troy (46,465) (*Hudson*) has manufactures of hardware and machinery and an iron foundry. Buffalo (118,000) (*L. Erie*) is the chief *entrepôt* between the western states and the Atlantic; has a ship-yard, iron foundries, and other important factories. It is 290 *m.* from New York, at the terminus of the Erie canal. It was taken by the British troops and burnt in 1812. The town has huge granaries, where the corn for the European

* Is frozen for 91 days every year. It has exquisite scenery.

† By the Dutch, to whom it formerly belonged, it was called New Amsterdam; but having been taken by the English, it was called New York after the Duke of York.

‡ Staten has an area of 63 sq. mls. Long Island is 115 *m.* by 20, with an area of 1,500 square miles.

market is stored, on being brought from the vessels of the lakes to the canal barges, to be towed by the Hudson river to New York. The distance from Buffalo to Chicago, by rail, is 538 miles. **Rochester** (35,000) (*Genesee*) has large flour mills and a university. **Syracuse** (43,000) is a railway centre in the W. of the state, with great commercial activity, particularly in salt manufacture from brine-springs. **Utica** (28,804) (*Mohawk*), an important town, with the Lunatic Asylum of the state, is the seat of Hamilton College. **Oswego** (20,910) (*L. Ontario*) is an active port, connected with Syracuse by rail. **Poughkeepsie** (20,000) is an agricultural town, 75 *m.* N. from New York. **Auburn** (17,225), on the railway W. of Syracuse, has improving trade, a Presbyterian College, the state prison, and carpet-making. **Elmira** (15,863) is a town of very recent date; and of **Cohoes** (15,357) the same may be said. **Plattsburg** (8,000) is a port on *L.* Champlain. **Binghampton** (12,692) is a railway centre in the S. of the state. **Geneva** (7,000) (*L. Seneca*) is a handsome town, with a college. **Schnectady** (11,026) (*Mohawk*) was founded by the Dutch about A.D. 1620. The Erie canal passes it, and goes on to Troy. **Hudson** (8,000), on the river of the same name, is a place of transit trade. **Rome** (11,000) is N.E. of Syracuse, on the railway. **Ogdensburg** (10,076) (*St. Lawrence*) has trade by the river. **West Point** (*Hudson*) has a renowned military college. **Saratoga** is a fashionable watering-place. Here General Burgoyne surrendered to the American general, Gates, 1777.

8. **New Jersey**, along the west bank of the Hudson, near its mouth, has many fine watering-places on the coast. The surface is generally flat, with a few sand-hills in the north. It stands first in the manufacture of "silks, trunks, and valises." Its climate is milder than that of New York.

Trenton (9,000) (*Delaware*) was the scene of one of Washington's victories over the British, 1776. It has an agreeable situation.

Newark (105,000) (*Passaic*), a much larger town, is the commercial capital. **Atlantic City**, on the coast, is much resorted for sea-bathing.* **Princeton** has the state college. **Jersey City** (82,546) is nearly opposite Brooklyn, and partakes of the enterprise and activity of New York. **Burlington** (6,000) is a neat town on the Delaware. **Paterson** (33,600) is a good town, with manufactures of cotton thread, machinery, and paper. **Elizabeth** (20,833) is of modern growth. **New Brunswick** (12,000) is much engaged in trade by the canals. **Hoboken** (20,297) is an important town. **Camden** is opposite Philadelphia, of which it is really a suburb.

* Here is the well-known hotel, Mount Vernon, with 3,500 sleeping rooms.

9. **Pennsylvania** is an exceedingly beautiful and fruitful province, abounding in busy industries. It touches Lake Erie towards the N.W., the mouth of the Delaware on the S.E., and has a mountainous surface, the Alleghanies traversing it in a broad band. The E., watered by the *Susquehanna* and the tributaries of the *Delaware*, is flat and uninteresting. In other places the landscape is beautiful. Its four great industries consist of trade in petroleum, coal, iron, and timber.

Philadelphia (674,000) (*Delaware*) until A.D. 1800 the capital of the Union, is handsomely built and beautifully laid out with broad streets; has a statue of Penn, its founder; and still retains the mint of the Republic. It ranks next to New York in population, and has a park containing 2,000 acres. It was entered by the British after the battle of Princeton, 1777.

Harrisburg (23,104) (*Susquehanna*), the seat of the government, is at an important railway centre. Pittsburg (86,000) a dark gloomy-looking city, compact and well-built, stands at the junction of the Monongahela with the Ohio, is called the "Birmingham" of America. Here the machinery for the Mississippi steamers is principally made. Alleghany (53,180), W. of Pittsburg, of which it is almost a suburb, is one of the most improving towns in the state. Scranton (35,092) is a town with active trade. Reading (33,930) is an important railway centre with extensive trade and manufactures. Williamsport (16,030) (*Susquehanna*) is a flourishing town. Lancaster (21,295) has trade with the interior. Erie (*L. Erie*) (19,646), and Altoona (10,690), are fast-improving places.

10. **Delaware**, the second smallest state, extends in a narrow strip along Delaware bay. Though eminent for iron ship-building, it is best known as a grain and fruit-growing district.

Dover (5,000) (*Jones' R.*) is a small town, with the state buildings.

Wilmington (31,000) (*Brandy-wine*) is a very important and substantially-built town. Its manufactures include woollens, cottons, steam engines, and mill machinery. Its flour mills on the Brandywine are very large. Here a battle was fought, in 1777, between Washington and Lord Howe.

11. **Maryland,*** with a very irregular shape, curves round Chesapeake bay, and is separated from Virginia by the Potomac. It is rich in minerals, and produces much tobacco.

Annapolis,† (*Severn*) is an important place.

Baltimore (267,254) (*Patapsco*) the fourth city of the Union, a great flour mart, is the chief port for the shipment of tobacco, in which it has the most extensive trade of any city in the world. It is handsomely built, 14 *m.* from Chesapeake bay. It contains a statue of Washington and an obelisk to commemorate the unsuccessful attack of the British on the city, 1814, on which the names of the defenders who fell are inscribed in letters of gold. Frederick City (7,000) is about 60 *m.* N.W. from Annapolis.

12. **Western Virginia** is a hilly district which adhered to the Federals in the recent civil war.

Charleston, the capital, is a new town centrally situated in the salt district. Wheeling (12,280) (*Ohio*) has much trade by river and rail, with glass and iron factories.

13. **Virginia**‡ is low towards the coast, and much broken by inlets; but it is in many places marshy, and unhealthy in summer. Towards the W. the surface is more elevated, well-wooded, and rich in minerals, particularly in iron and coal. The *Potomac*, which receives the *Shenandoah*, flows chiefly along the northern border of the state. The *Rappahannock*, the *York*, and the *James*, also water this state. Maize, wheat, and tobacco, and, to a less extent, corn and flax, are the chief products. It ranks first for tobacco. Oyster-beds along the coast extend over a million of acres.

Richmond (51,038) (*James*), about 100 *m.* from its mouth, has fine public buildings and large tobacco stores and factories. It suffered very severely in the late civil war, being the Confederate capital. It was taken after an indefatigable three years' siege by General Grant, 1865.

* So named in honour of Queen Henrietta Maria.
† So named in honour of Queen Anne, in whose reign it became the capital.
‡ The oldest state in the Union—it was given to Sir Walter Raleigh by Queen Elizabeth, in whose honour the state was named. At the time of the civil war Western Virginia became a distinct state.

Norfolk (19,229) (*James*) is a naval station. It was severely injured in the war. Portsmouth (10,492) has a good harbour, a navy-yard, and a military academy. Fredericksburg (*Rappahannock*), half-way between Richmond and Washington, was the scene of severe fighting in the late war. Petersburg (18,950) (*Appomattox*) was the scene of an attack and dreadful repulse of the Northerns. Harper's Ferry (*Potomac*), amidst the finest scenery in all America, is 50 miles above Washington: often crossed and recrossed by the combatants in the late war. Alexandria (13,570) (*Potomac*), a watering place, is the seat of flour, maize, and tobacco trade. Georgetown (*Potomac*) (11,384) is in the neighbourhood of Washington, and partly in the district of Columbia. It has a Catholic college. Yorktown was the scene of Lord Cornwallis's surrender with an English force in 1781.

14. **North Carolina,** lying S. of Virginia, with a low, swampy plain, 60 *m.* broad on the Atlantic coast, and the *Blue Ridge* mountains, which attain an elevation of 5,500 feet on the W., is a productive state, cotton, rice, and indigo being raised in the E. (an unhealthy district), and wheat, maize, and tobacco in the W., or elevated region—a salubrious district. *Tar*, pitch, and turpentine are largely produced. Though many rivers run into the Atlantic, yet no good harbours are found, bars and sand-banks rendering navigation along the coast dangerous. *Mitchell's Peak* rises above 6,000 feet. Some gold and iron are found.

Raleigh (6,000) (near the *Neuse*) is a thriving town, and has a good state-house of granite.

Fayetteville (6,000) (*Cape Fear*) is a busy town, with an armoury. Beaufort, with a good harbour, is the only port on the coast. Wilmington (13,446) (*Cape Fear*), standing 40 *m.* from the sea, with powder-mills, is the most commercial town in the state, and is also an important manufacturing town. Newbern (5,000) (*Neuse*) has increasing commerce, and a pleasant situation.

15. **South Carolina,** a little smaller than Ireland, has physical features resembling N. Carolina, but better harbours: the sea-coast is bordered with islands. The flat or eastern district is 80 *m.* broad, and deeply covered with forests; further inland is the sandhill region, 60 miles in width; and still further inland the highland district, with

a belt of table-land, a precipitous descent on the E. and a gradual acclivity to the mountains on the W. *Table Mountain* rises 4,000 feet above sea-level. Cotton* and rice constitute the staple productions, both being largely exported to England. The principal rivers are *Santee*, *Cooper*, *Ashley*, and the *Savannah;* the latter forming the southern boundary.

Columbia (9,000) (*Congaree*) has wide streets, and many handsome public buildings.

Charleston (48,956), the most commercial town of the E. States, south of the Potomac, stands on a tongue of land between the rivers Ashley and Cooper, is well-built, and much healthier than the surrounding country, but was greatly injured in the recent war, which broke out here 11th April, 1861.

16. Georgia† is just as large as England and Wales. It produces abundance of rice, and the best cotton, indigo, and tobacco, is exceedingly swampy, and the coast for four or five miles inland is a salt marsh. A chain of islands, which yield the best cotton, border the shore. Its surface gradually rises towards the W., while the Blue Ridge mountains attain an elevation of 1,500 *ft.;* and beyond which there is a very fertile country, of diversified surface. Gold, copper, and iron have been found, but cotton and rice are the staple products.

Atlanta (21,789) (*Chattahoochee*) was burnt by Sherman in the late war. It is an important railway centre. Milledgeville (5,000) (*Oconee*) is in a rich cotton-growing country. Athens (*Oconee*) is the seat of the state university. Savannah (28,235) (*Savannah*), advantageously situated for commerce, stands on a bank 50 feet above the water, 15 *m.* from the sea; has spacious and regular streets, handsome public buildings in the midst of groves of trees; and, since the draining of the contiguous swamps, is decidedly a healthy city. Most of the commerce of the state passes through it. This town was captured by Sherman, 1865. Augusta (15,389) (*Savannah*), at the head of its steamboat navigation, is the great commercial emporium of the interior, has cotton and kaolin manufactures,

* American cotton is of two kinds—the *Upland* and the *Long Staple*, or *Sea Island;* the latter, of a yellowish tinge, long and silky, is of a very superior quality, and is largely produced in the islands which fringe the shore of this state.

† Forests abound in this state as well as in the Carolinas which not only yield timber, but also pitch, tar, and turpentine.

and is connected with *Hamburg* on the opposite side of the river by a bridge. Maçon (10,810) (*Ocmulgee*) had only a cabin in 1822, but now, on account of its extensive and increasing cotton trade, is an important town. Columbus (20,000) (*Chattahoochee*) at which six railways centre, 430 *m.* from the sea, is a modern town, largely engaged in manufacturing cotton, iron, brass, and agricultural implements. Darien (*Alatamaha*), also an improving town, has trade in lumber and cotton; and St. Mary's (*St. Mary's*) has a deep and commodious harbour. Rome, an inland town, is now an important iron manufacturing seat.

17. Florida,* a long peninsula, has, generally speaking, a level surface, interspersed by numerous ponds, lakes, and swamps. Timber is a valuable product; sugar and rice are largely raised; and vast herds of cattle reared. The climate, during the three hottest months, is extremely unhealthy. Oranges, dates, and figs are produced.

Tallahassee, the capital, contains the state senate house, and many splendid public buildings. It is in the N.W.

Key-West (*Thompson's Island*), a naval station, has a good harbour. It commands the entrance to the gulf of Mexico. St. Augustine (4,000) (*Atlantic*), the oldest town in the Union, has some buildings in the Spanish style; it is surrounded by orange groves. Jacksonville (*St. John's*) is a flourishing commercial depôt. Pensacola (*Pensacola B.*), an important naval station, carries on extensive lumber trade.

18. Alabama has a low southern district, 50 *m.* wide, covered with pine trees, cypress, etc.; but is hilly in the centre and somewhat mountainous in the N.—the great Alleghany chain terminating in the N.E. Extensive forests abound, fertile valleys border the rivers, and treeless prairies clothed with herbage extend far and wide. Rice and sugar are largely produced near the gulf; marble, coal, and iron are found in the centre, and gold in the north. The climate is almost tropical.

* This name formerly included a much larger territory, extending as far W. as the Mississippi. The "Florida Keys," a range of islands on the south and south-east coast, between which and the mainland runs a navigable channel, are said to have been formed by the Gulf Stream, which here sends currents towards the shore called "eddies," a great obstruction to navigation.

Montgomery (10,588) (*Alabama*) exports cotton.

Mobile (*Mobile*) (32,034), a commercial depot for this State, and part of Georgia and Mississippi, stands on a dry and elevated spot, has a good harbour, and is largely engaged in the export of cotton. It has a Catholic college. Here the northern fleet was defeated in 1864. Wetumpka* (8,000) has important mineral waters. Tuscaloosa (*Black Warrior*), in the centre, is a great resort of steamboats; has the State University, and some good public buildings. Florence (*Tennessee*) is a thriving place, with a Methodist College. Birmingham (5,000) is a modern iron and coal seat.

19. Mississippi,† lying to the E. of the river of the same name, is, in the S., for 100 miles inland, a champaign country, covered with a pine forest, interspersed with marshes.‡ Further N. the surface is more elevated, with a more agreeable aspect, a very productive soil, cotton being the staple crop. The olive and fig flourish in the south of the state, and the apple in the hills.

Jackson (*Pearl*) is in a nice position, and has the usual state public buildings.

Natchez (8,000) (*Mississippi*), the most important town in the state, stands 310 *m.* above New Orleans; is divided into two parts—one on the margin of the river, consisting of warehouses, boarding-houses for boatmen, etc.; the other on a bank 300 feet high, is the residence of the chief citizens, has wide streets, ornamented with groves of orange and other trees. Large vessels come up to the town; but its river and inland trade is much in excess of that with foreign countries. It is a great cotton mart. Vicksburg (12,443), 106 *m.* more N., is picturesquely situated on several eminences, around which numerous plantations flourish. It also exports much cotton, and was a stronghold of the Confederates in the Civil War.

20. Louisiana,§ having a long sea-board on the gulf, lies W. of the Mississippi, and E. of the Sabine river.

* "Cut out of the forest" in 1832, had 6,000 inhabitants in 1852.

† Two tribes of Indians, the Choctaws and Chickasaws, inhabited this state until about the year 1830.

‡ The Yazoo swamp runs north of the river of same name, for 175 miles, and 50 in breadth, containing 7,000 square miles; is sometimes inundated by the Mississippi, when it appears a vast marine forest. The head branch of the Yazoo, called the Cold Water River, communicates with the Mississippi by a "bayou" or creek called the Yazoo Pass.

§ Its inhabitants were principally French and Spanish colonists, now merged with immigrants from other countries. It is so named in honour of Louis XIV. The district around was purchased from France in 1803, and Louisiana became a state in 1812.

Three-fourths of the surface consist of one continuous plain; vast prairies are found here, over which herds of deer and buffaloes roam; and the periodical overflow of the great river is kept off the plantations by a kind of embankment called a *levee*. *Cotton* and *sugar* form the principal productions, immense quantities of both being grown. The *Red River* runs through the state in a S.E. direction to join the Mississippi. Near its course many lakes are formed by the surplus waters.

New Orleans* (191,418) (*Mississippi*), the third commercial town in the country, is the chief shipping port for the immense tract drained by the Mississippi, a river which carries down immense deposits, causing great dredging at its mouth, from which the city stands 105 miles, in a low position; but its streets are wide and well laid out, running at right angles or parallel. As to commerce the situation is happy. Opposite the city, the river is about half a mile wide, and 150 *ft.* deep. Immense quantities of cotton, tobacco, sugar, molasses, etc., are annually exported, besides flour, coffee, and other articles. Amongst its public buildings are the State House, the Custom House, Exchange, the Mint, the Catholic Cathedral (an imposing building with four towers), the Ursuline Convent, the College of Orleans, several hospitals, theatres, Hotel St. Charles, etc. In 1862 it was taken by the Federals; but in 1815 the English General Pakenham was here repulsed by the American General Jackson.

Baton Rouge (*Mississippi*), by the river 130 *m.* from *N.* Orleans, with an arsenal, has many houses erected in the French and Spanish styles. It stands on an eminence 20 *ft.* above high-water mark, and has lately become a great shipping port. Alexandria (*Red River*) stands in the centre of a rich cotton district.

21. Texas has a very fertile soil, producing cotton of the very best quality. It has mountains on the N. frontier, which are covered with snow many months of the year. It slopes from the N.W. to the *G.* of Mexico. Sugar and cereals are largely produced. Peaches, cayenne pepper, and vanilla are much grown. This state is rich in minerals.

Austin (4,000) (*Colorado*) is only known as the capital. Houston (*Buffalo*) is more important. Galveston (13,818) (*Coast*) is the prin-

* It belonged to Spain and to France; at present its language is a complete medley of French, Spanish and English.

cipal port. It stands on a low, sandy isle; its wharves extend two miles; and its exports rank next to those of *N.* Orleans. San Antonio (12,256), S.W. from Austin, is a growing town.

22. Arkansas,* so named from a river, is forest and prairie land, flat, hilly, and mountainous, as it recedes from the Mississippi, in many places exhibiting extreme sterility. Timber is a staple product. Minerals are largely exported. Indian corn and cotton are the other chief productions, and fruits of all kinds are abundant.

Little Rock (6,600) (*Arkansas*), the capital, stands 300 *m.* from the Mississippi, on a high rocky cliff; hence its name, which was at first applied in jest. A railroad connects it with Memphis.

Van Buren (35,000) is a commercial town in the W. *Batesville* (*White river*) is a rising town. *Helena*, *Napoleon*, and *Columbia* (*Mississippi*), are the next most important places in the state.

23. Tennessee is drained by the *Cumberland* and *Tennessee* rivers, which wind through it, and the Mississippi, which touches it on the W.; the district between the two last-named rivers being an undulating plain. In the middle the surface is hilly, and in the E. mountainous. The soil is various: on the mountains barren, in the valleys fertile, and in the western plain a rich mould of extraordinary productiveness. Cotton and tobacco are produced in great abundance, saltpetre is exported, and also cattle from the E. Iron, gold, coal, and salt are the chief minerals.

Nashville (25,865) (*Cumberland*) is a well-built town, with a university, many fine public buildings, and active trade.

Clarksville, further down the *Cumberland*, is a thriving little place. Knoxville (*Halston*) is declining. Memphis (40,226) (*Mississippi*) is becoming of great commercial importance.

24. Kentucky lies W. of Virginia, and N. of Tennessee. It has the Ohio river on the N. for 367 *m.*, the rapids

* It was only in 1819 it became a separate territory, and in 1836 it was admitted as a state. Wild turkeys, in immense flocks, are found in the woods.

on which at Louisville are avoided by a canal. The Cumberland mountain is on the S.E. The surface is very varied—mountainous on the E., hilly near the Ohio, with many nice valleys interspersed. The soil rests upon a bed of limestone, which is about eight feet below the surface. There are several caves which form the greatest subterranean curiosity in the world. The crops are hemp, tobacco, and maize. Salt springs are numerous: and this state ranks first for whiskey distillation.

Frankfort (*Kentucky*), amidst bold scenery, has a capitol of white marble, picturesquely built. Lexington (14,801), the oldest town in the state, in the centre of a rich district, is a remarkably neat-built town, with cotton and woollen factories. Louisville (100,753) (*Ohio*), a well-built town, the centre of the wealth and intelligence of the state, is reached by large boats by means of a canal, and is extensively engaged in trade and manufactures. Near it is the extraordinary mammoth cave. Maysville (*Ohio*) is a trade centre, much frequented by steam-boats. Newport (15,087), and Covington (24,505), opposite to Cincinnati, both on the *Licking* river, are rising towns of modern growth, the former a fashionable watering place.

25. **Ohio*** an enterprising and populous state, lies S. of Lake Erie, and W. of Pennsylvania; is level in the N. and centre, but hilly in the E. and S.E., with great tracts of meadow land along the Ohio and other rivers. Rich iron and coal mines are found in the east of the state.

Columbus (31,274) (*Scioto*) the capital of Ohio, is regularly built, with a square in the centre, around which many of the public buildings are ranged. It is near the centre of the state.

Cincinnati (216,239) (*Ohio*), with streets† running in regular parallel lines, has been called "Queen of the West," and is a great modern commercial emporium. Among its establishments of industry are "brass and iron foundries, cotton mills, rolling and slitting mills, saw and flour mills, chemical works, etc.;" and above 3,000 steamboats arrive here annually. The manufacture and export of household furniture afford important sources of employment.

Portsmouth (10,592), already mentioned, is in an important

* The *Ohio Canal*, from Portsmouth on the Scioto, to the Muskingum river, thence to Lake Erie, a distance of 310 miles, and the *Miami Canal*, from Cincinnati to the Wabash, and thence to the Erie Canal, together with the *Pennsylvania Canal*, 85 miles long, reflect the greatest credit on the enterprise and spirit of the inhabitants.

† Seven of these are 66 feet wide and 152 yards apart.

position for commerce, and has many manufactories of iron, nails, etc. Zanesville (10,011) (*Muskingum*) has water communication with New York and New Orleans. There are flour, paper, and saw mills. Hamilton (11,081) (*Miami*), and Acron (10,006), are modern towns. Cleveland (92,829) (*L. Erie*), a most important port, stands on an elevated plain at the mouth of the Ohio canal, with a splendid harbour, secure and accessible. Toledo (31,584), a port on W. of same lake, is an important railway centre. Huron, further W., is the centre of an industrial district, and *Norfolk*, in a highly fertile country, has some manufactures. Dayton (30,473) (*Mad*), has important cotton and iron factories, with machinery works. Portland, a busy and growing port, has a good harbour. Sandusky (13,000) (*Sandusky*) is a rising port. Springfield (12,600) (*Mad*) is an important town, with flour, woollen, and paper mills, and iron foundries, and trade in corn, cattle and hogs.

26. Michigan is a peninsula, with a flat surface, except in the N., where Porcupine mountain rises to 2,000 *ft.* This state has a rocky coast. It is drained by numerous rivers, which flow into the lakes, and is a flat country, with a central table-land of a slight elevation, and sand-hills in many places along the coast. Wheat, maize, oats, barley, and potatoes are the principal crops. It has a mild and temperate climate. There are very productive copper mines.

Detroit (79,577) (on a river of the same name, which runs from *L.* St. Clair to *L.* Erie) has an admirable situation for commercial purposes on the Canadian frontier. Its wharves are crowded with steamers, which ply to Chicago, Buffalo, and other places. Jackson (11,447) (*Grande R.*) is an important town with the state prison. Lansing is a small and unimportant place.

27. Indiana, lies S. of Michigan, W. of Ohio, and for 360 *m.* separated from Kentucky by the Ohio river, is in some places hilly, though there are no mountains. This is a fine agricultural state, exporting beef, pork, cattle, horses, swine, corn, tobacco, etc. Its coal beds are very extensive.

Indianapolis (100,244) (*White R.*) stands on a plain, and is called the "railroad city," about a dozen lines converging to it; has spacious streets and handsome public buildings. Lawrenceburg (10,000) (*Ohio*) carries on extensive trade, but its low situation renders inundations frequent. Madison (10,709), about 60 *m.* further down the river, has a good trade. New Albany (15,396) is the largest town

in Indiana, next to the capital. **Michigan** (*Lake*) has an unsafe harbour, the lake shore being skirted with bare lofty sand-hills.

28. **Illinois**, a fertile and improving state, lies W. of Michigan and Indiana. It is chiefly bounded by the Mississippi, Ohio, and Wabash rivers. Generally speaking, the S. and middle of the state are level, and the N.W. hilly. Its grand prairie (devoid of trees), is 150 *m.* long, and 10 *m.* wide. Maize is the staple crop; wheat and rye are also largely grown. Thousands of hogs and cattle are reared and exported. Coal is found. In the N.W. lead is found in immense quantities.

Springfield (17,400) (*Sangamon*) is an important railway centre, 190 *m.* from—**Chicago*** (450,000) (*Chicago and L. Michigan*), is now a flourishing port, with an artificial harbour; has magnificent public buildings. This town was founded in 1833, and has, with giant strides, doubled its population every four or five years. It is the centre of the great railway system of the W., ten or twelve lines converging to it—the greatest "grain depôt" in the world, the greatest hog market, and one of the greatest timber marts. It has an immense stock-yard, and several pork-packing houses, where, in the busy season, 4,000 pigs are daily killed. In 1871, at least 12,000 houses were burned, including the wholesale stores, hotels, newspaper offices, etc. It is supplied with water by an aqueduct opening in the centre of the lake. **Alton** (7,000) (*Mississippi*) is a western depôt, with fast increasing trade in agricultural produce. **Peoria** (22,849) (*Illinois*) is also an important railway centre. **Aurora** (11,162), in the N.E., partakes, to a certain extent, of the great industry of Chicago. **Nauvoo** (*Mississippi*) was the former abode of the Mormons. **Galena** (9,000) is an important railway centre. Here are rich and productive lead mines. **Rock Island** has trade both by river and rail.

29. **Wisconsin**, stretching from the Missouri to Michigan, is a vast table-land; but in some places there is a swampy marsh. The climate is severe in winter; and extensive pine and oak forests cover much of the surface. Lead is abundant, and iron ore is found near L. Michigan.

Madison City (6,000) (*Rock R.*), the capital, is near several lakes. **Milwaukee** (71,440) (*L. Michigan*) has extensive trade in grain, bricks, provisions, and metallic ores. It is crowded with steam-boats. **Oshkosk** (10,633) is in an important agricultural district.

* Has been called the "wickedest, wittiest, wealthiest" city in the Union.

30. **Missouri** is nearly equally divided by the river of the same name. In the W. are gentle slopes and broad valleys, admirably adapted for farming purposes; and in the S.W. is the most extensive bed of lead in the world. In the S.E. minerals are also abundant. In the N. timber and prairie land* abound, well watered with numerous streams; an undulating and very salubrious region. Along the banks of the river, nearly two millions of acres are submerged during a part of the year. Iron ore is very abundant. Iron Mountain, the greatest mass of this metal in the world, is 220 feet high, covers 500 acres, and is almost exclusively of this ore. Next in abundance ranks lead; and copper is found in sufficient quantities. Indeed almost every metal is found in this state. Turpentine, resin, and tar, can be easily manufactured from the sap of the yellow pines: grapes flourish in some places.

Jefferson (3,500) (*Missouri*) has the state house and several good schools. Kansas (32,260) (*Missouri*) is an important town. St. Joseph (19,565), in the N.W., is on the Missouri. Hannibal (10,125) (*Mississippi*) is a trading station. St. Louis† (310,864), a great railway centre, is an important commercial station on the Mississippi, 18 *m.* below its confluence with the Missouri, and 1,132 *m.* from N. Orleans. It has a Roman Catholic university (founded in 1829), a museum, and a cathedral. It is one of the most favourably situated cities in America for general commerce. In 1804 it was a mere village; and in 1813 the first brick house was erected. St. Charles (*Missouri*) has a flourishing Methodist college.

31. **Iowa**, about 200 *m.* from N. to S., and 200 *m.* broad, is bounded N. by Minnesota, E. by the Mississippi, S. by the Missouri, and W. by Nebraska. It was formerly a portion of Missouri, but became a state in 1846. Its prairies offer great advantages for sheep farming and cattle rearing, by affording an inexhaustive pasturage. Cereals grow luxuriantly; hogs are innumerable; *minerals*, parti-

* The prairies, in this State, are fully as large as Ireland.

† It was founded in 1764; but made no progress under the French and Spanish. It is centrally situated, about 1,800 miles from New York by water, and 1,200 miles from New Orleans, evidently destined for still more importance.

cularly lead are very abundant, and include iron and coals; manufactures consist chiefly of articles wanted for home consumption, such as coarse woollens, ploughs, thrashing-machines, and agricultural implements.

Iowa (4,000) (*Iowa*) is a small town in the county of Johnston, so named by settlers from the North of Ireland, who cleared the district.

On the Mississippi are, Davenport (20,031), the commercial capital of the State; Burlington (14,930), further S.; Dubuque (4,000), further N., exports lead. Keokuk (12,766) is also on the great river. Des Moines (12,035) (*Des Moines*) is rather centrally situated, and has good trade. Waterloo is a mining town. Council Bluffs (11,020) (*Missouri*), nearly opposite Omaha, has rising trade.

32. **Minnesota*** is bounded N. by the British Possessions, E. by L. Superior, Wisconsin, and the Mississippi river, W. by Dacota, and S. by Iowa. It occupies the central part of North America, "being midway between Hudson's bay and the gulf of Mexico, and between the Atlantic and Pacific," with an undulating surface and "drift hills" in the north, rising from 100 to 600 ft. This is a great agricultural country; wheat, for which it is pre-eminent, being the principal cereal crop; meadow grass is very abundant. Sheep farming is a profitable occupation, in which many are engaged. *Minerals* are abundant; copper, iron, coal, and granite have been found. *Timber* is plentiful and valuable; and wild animals are numerous.

St. Paul† (25,000) (*Mississippi*), at the head of the permanent navigation of the river, is a *fast-improving* town, and the chief commercial depôt of the state. The river here is only about the size of the Thames at Richmond. St. Anthony (7,000), nine miles above St. Paul, commands a splendid view of the *falls* from which it derived its name. It has great lumber and flour trade. Minneapolis (12,066), pleasantly built on a high rolling prairie, is connected with St. Anthony by an excellent bridge. Winona (*Mississippi*), the second

* In the Sioux tongue, the "sky-tinted" or "muddy water." It was taken possession of by the French, 1680; ceded to Britain at the peace of 1763; has belonged to the United States since 1783, by which it was organized as a territory, 1849, and admitted as a state, 1854. The snow-storms are often so sudden and violent, that persons from home are frozen to death, railway trains blocked up, and drivers of vehicles completely frozen in their seats.

† In 1862, near this town, 1,200 settlers were treacherously murdered by the Sioux Indians.

town in the state, considered its southern capital, stands 100 *m.* from St. Paul by rail, and is the centre of an increasing trade. **Stillwater** (*St. Croix*) is a lumber centre. **Arroka** (*Rum*) has trade in barrel-making. **Lake City** (4,000) (*L. Pepin*), and **Portland** (*L. Superior*), are improving towns. **Duluth** (*L. Superior*) is a modern grain depôt, becoming more and more important.

33. **Kansas**, extending from 37° to 40° N. latitude, and "from the state line of Missouri 600 miles westward," rises from the deep valleys of the streams by steps or terraces, which culminate in undulating uplands, on whose sides flourish luxuriant forests, with picturesque scenery. The soil is uniformly a rich loam—the deepest and richest in the world; the atmosphere clear and pure, and often a month elapses without a shower. Coal and iron are abundant. The usual cereal crops are cultivated.

Topeka (*Kansas*), the state capital, is a small town. **Leavenworth** (17,873) (*Missouri*) is a great railroad and steamboat trade centre. **Lawrence** (9,000) (*Kansas*), a flourishing city, has considerable trade. **Lecompton** (*Kansas*) is also an important place.

34. **Nebraska**, a fine agricultural country, was made a territory in 1854. Its surface is a "gently rolling prairie;" its atmosphere is pure and clear, and rain falls sufficiently to irrigate the luxuriant crops of Indian corn, wheat, oats, and tobacco. The winters are exceedingly cold, and hurricanes of great violence last several days at a time. Coal and iron have been found 50 miles W. of the Missouri. The *Platte* river runs through the centre from west to east.

Omaha (16,083) (*Missouri*) occupies a central and commanding position. It is a railway centre, with an increasing trade. **Nobraska** (*Missouri*) is also a growing town.

35. **Colorado**, generally speaking lying between the parallels of 37° and 41° N. latitude, and between the meridians of 102° and 109° W. longitude, has the great Rocky mountain range running through the centre, and covering two-thirds of the surface, leaving vast plains on both sides. These mountains are almost treeless, with an uninviting aspect, and the plains almost barren; the climate varies

with the elevation, being delightful in the east. The snow does not fall in severe storms, but tends to saturate the rich grass which is parched by the scorching sun of July and August. Its gold mines are rich and productive; iron and coal exist in small, and silver and lead in large quantities. About 40 *m.* from Denver there are rich silver mines. It was admitted as a state, 1876.

Denver (8,000) stands thirteen miles from the Rocky mountains, is a great central station between the Mississippi and Salt Lake City, and is destined to become a great commercial depôt. It is connected by rail with St. Louis and San Francisco. •

Central, *Golden*, *Colorado*, and *Canon* cities, are the other towns; the first having become very important since the silver mines have been discovered in the neighbourhood.

36. **California,*** lies S. of Oregon, W. of Nevada and Arizona, with a length, in round numbers, of 830, and a mean breadth of 230 miles.

The physical aspect of the country is determined by the two mountains—the Sierra Nevada and the Coast range—which, with the proximity to the Pacific, give peculiar features to the climate—being temperate near the coast, hot and dry east of the Sierra, and cold on the summits. The soil in the valleys is rich,† affording excellent pasturage; and north of 39° are extensive pine, cedar, and oak forests. Wheat, barley, hops, hemp, flax, etc., are produced in abundance, particularly around San Francisco bay. The wet season is most intense in November, and the country suffers from occasional droughts and freshets, which injure the crops. Grapes, from which delicious wines are made, are cultivated in the warm valleys, and the silk crop is increasing; but the most important productions are wheat and gold, of which there seems to be

* The peninsula of Lower California, which still belongs to Mexico, was discovered in 1534-5, by Cortez, and Upper California, by Cabrillo, in 1542. The coast was visited by Drake in 1576. At the peace of 1848, between the United States and Mexico, this country was ceded to the former, just about the time of the gold discovery, which led to such a rush of immigrants from all parts of the world; and in 1850 it became a state, having then the necessary 60,000 inhabitants.

† A process of leveeing or embanking the rivers, to protect these valleys from floods, is carried on, the levee rising 4 feet above highest flood-mark.

an inexhaustive supply. Silver, quicksilver, and other minerals are also found; but this state is gradually becoming more agricultural.

Sacramento (16,283) (*Sacramento*) is a modern place, the miners' depôt for an extensive district.

San Francisco* (149,473), 120 *m.* from Sacramento, is a flourishing fortified port on a bar of sand on the bay of the same name, with fast-increasing commercial intercourse. **Benicia** (7,000), an improving port, has a naval arsenal. **Stockton** (10,066) (*San Joaquin*) is the chief town from which the southern miners are supplied with necessaries. **Oakland** (10,500) is a town of modern growth. **San Diego** (*Pacific*) is a southern port.

37. **Oregon** included Washington until 1853, and became a state in 1859. It is a splendid timber country, and one of the best wheat-growing districts in America. The temperature is rather cool, but in the S. tobacco is grown largely. Wool is largely exported; and rich gold mines have been found in the E.; coal and iron are also found. The *Columbia*, with a course of 1,200 miles, forms for a considerable distance the boundary between Oregon and Washington. Its most important tributary is the *Willamette*, which rises in the Cascade range, and is 200 miles in length; both rivers have magnificent scenery throughout almost their entire course.

Salem (*Willamette*) has agricultural and mining trade. **Oregon** is 50 miles lower down the river. **Portland**, a trade centre, is still further down. **Astoria** (*Oregon*) is a commercial depôt.

38. **Nevada**, very rich in minerals, forms the western side of the great basin enclosed by the Rocky mountains on the E. and the Sierra Nevada on the W., its valleys averaging 5,000 feet in height. It includes mountain peaks rising 11,000 feet above sea level; and is bounded on the N. by Oregon and Idaho, on S. and W. by California, and E. by Utah. This country is very unfavourable to agricul-

* The enterprising spirit of its inhabitants is practically confirmed by the piercing of the Sierra Nevada, in order to bring water for the city from Lake Tahoe, 100 miles distant. Its bay is the best naval station in the Pacific.

tural pursuits, but is very rich in minerals, particularly silver. Several large lakes are in the W.—Pyramid, Humboldt, Walker, etc.

Carson (*Carson*), the capital of this territory, is a rapidly improving mining town on the borders of California. Virginia (10,000) (*Carson*), the commercial capital, with rich silver mines in its vicinity, stands 6,000 feet above sea level, and is rapidly extending. It is in a pleasant position. Austin (5,000) (*Reese*) is the second town. Lancaster and Centresville are on the Pacific railway.

TERRITORIES.

1. **Washington**, which borders upon British Columbia, and the Pacific, was organized in 1853. It is divided into two parts, E. and W., by the Cascade mountains. The western division, about one-third of the whole has some fertile prairies and an average amount of timber, with a mild climate, and a wet and dry season. The eastern division, sparsely inhabited, is mostly prairie country, with warmer summers, more productive valleys, and table-lands suited for grazing. It produces the usual cereals, and is rich in gold, silver, coal, lead, and other minerals. *Puget Sound*, on the W., is a great lumbering district, and abounds with valuable fish.

Olympia (2,000) stands at the entrance of a small river near Puget Sound.

The other towns are *Vancouver*, *Walla Walla*, *New York*, *Pacific City*.

2. **Dacota** is traversed by the river *Missouri* and its feeders, Shyenne, White River, etc. It is well adapted for agricultural purposes, and its plains are crowded with herds of buffaloes and other wild animals. The useful minerals are found here in rich deposits; but the country is still very sparsely peopled.

Yangton (*Missouri*), in the S., is the best known town. Mandan is a small place. Forts George and Clarke are on the river.

3. **Idaho**,* with a very diversified surface, has a climate

* An Indian word meaning "the gem of the mountain."

which is very various. This territory is well known on account of its gold mines, which are rich and valuable, and dispersed in every direction: many of them are still unexplored. Agriculture is the prevailing industry of the state.

Boisé stands on a level plain on a river of the same name, thirty miles S.W. of Idaho City, also a small place.

4. **Montana** is a territory rich in minerals, agricultural produce and timber, with pasture lands of unsurpassed magnificence: much of it is still unoccupied by the husbandman. The *Bitter Root* range is in this territory; and the Rocky mountains run through the west. Of the rivers, the *Yellow Stone*, *Milk*, and *Missouri* are the most important.

Virginia (5,000) (*Missouri*) stands near the S. border. *Diamond*, *Helena*, and *Hellgate*, in the Rocky mountains, and *Alexander* on the Yellow Stone river, are the most important places in the territory.

5. **Utah*** has been the seat of the Mormons† since 1847. It is mountainous, and noted for the luxuriance and abundance of its fruits. The climate is invigorating, but in winter the snow storms are severe. The productions include cotton, in the south, and, further north, oats, barley, etc. The grape thrives well.

Great Salt Lake City (27,000) (*Jordan*) is one of the most beautiful cities in all America, with spacious streets running east and west at right angles, each 128 feet wide, bordered on each side by shady trees, with streams of water continuously flowing. It is surrounded by rocky hills, and has an extensive trade. Camp Douglas is a military station, whose guns command the city. *Filmore* and *Cedar* rank next in importance to the capital.

6. **Arizona**,‡ whose mineral wealth was early known to the Mexicans, is bounded on the W. by California, from which it is separated by the Colorado. It is watered by

* So called from its Indian settlers, the Yuta—"mountain dwellers."

† The Mormons are a peaceful, industrious people, whose tenets (particularly that of the practice of polygamy) are repugnant to most of the rest of mankind.

‡ In the original *Arizuma*, which is usually taken as equivalent to "silver-bearing." This territory was infested until lately by a fierce tribe of Indians, called *Apaches*, often troublesome to the authorities."

many clear streams teeming with trout and other fish; has an inexhaustible supply of timber, and produces immense quantities of grain, and great numbers of cattle. Rich mines of gold, silver, and copper are worked. The climate is salubrious, with very little snow or frost, and a rainy season from June to September. Cotton, corn, tobacco, peaches, and vegetables, thrive well.

Prescott, in the centre of a valuable mining district of gold, silver, and copper, is built of wood, and is inhabited by immigrants from California and Colorado; amidst pine-clad mountains, subject to frequent heavy rains, it is like a New England city.

Tucson, with a large Spanish population, is an improving town.

7. **New Mexico*** is traversed by stupendous mountain chains towards the E., with occasional gaps or passes, with the river *Colorado* running more to the west, nearly parallel to the great range. East of the mountains the valleys and slopes are very productive, and well adapted for sugar cultivation. On the west are immense plains with small villages interspersed, mostly inhabited by half-breeds and Mexican settlers. The winters are exceedingly mild; and luxuriant orchards are found along the Colorado. Gold is found in Placer mountain, near Santa Fé, in rich veins, and in other places; silver in *Organ* mountain; copper and iron abundantly, about 50 miles W. of Santa Fé, and other places. Good wheat is raised; maize, vines, and peaches thrive well in the south. The great staple of the country consists of red and green pepper.

Santa Fé (8,500) has considerable caravan trade, in a picturesque district among the mountains, on an arid plain, 12 *m.* E. of the Rio Grande.

8. **Wyoming** is mountainous on the west, with many wide, fertile, productive valleys. Its gold mines are rich. Fort *Bridger* and *Laramie* are the best known places.

* Until 1846 this was a province of Mexico; and by a peace between that country and the United States it was given over to the latter, 1848, and colonized, 1850. It was named (1870) Lincoln, after the president who was assassinated.

9. **Alaska,*** until lately "Russian America," and in reality a continuation of Siberia, is a wild and desolate region; but imperfectly explored, with an inhospitable climate, moderated to a small extent by the Pacific winds. The *Yukon*, the chief river, rises in British America, and waters a great forest district in the interior, and has a course of about 1,800 *m.* Much of the surface is mountainous, and lakes are numerous. Bears, deer and fur-bearing animals are in great numbers: timber is plentiful.

Sitka, the most rainy place in the world, though far north, has not a very severe winter. It has good salmon fisheries.

10. **Indian Territory** is a district set apart for Indian tribes. It lies N. of Texas, and is becoming civilized.

Port Washita (*Washita*) is on a tributary of the Red River.

Columbia (district of), containing the metropolis, lies on both sides of the Potomac, near its mouth.

Washington (109,199) (*Potomac*), the capital of the United States, is a beautiful city, intersected by shaded avenues, named after the various states. The capitol or parliament-house, and the White House or President's residence, are magnificent buildings. Here Congress meets the first Monday in December, and the superior court sits also here. It was attacked and greatly injured by the British troops in 1814.

Mountains.—The mountains of the United States have already been fully described.

Rivers.—The **Hudson**, 320 *m.* long, remarkable for magnificent scenery, is navigable to Hudson, 117 *m.*, and for smaller vessels to Troy, 50 *m.* farther up the stream. Though closed three months of each year, it is of great commercial importance, and contains good towns on its banks. The **Connecticut** traverses a rich valley, and enters Long *I.* sound. The **Delaware** separates Pennsylvania from New Jersey, is navigable to Philadelphia, 50 *m.*, and for small craft to Trenton, 36 *m.* higher up the river. Its course is about 300 *m.* The **Susquehanna** rises in L. Otsego, and flows into Chesapeake bay. The **Potomac** forms the boundary between Maryland and Virginia, and enters Chesapeake bay after a course of 350 *m.* The **James** is navigable to Richmond; the **Savannah** for boats up to Augusta, 130 *m.* It forms the boundary between S. Carolina and Georgia. The **Trinity, Brazos,** and **Colorado,** run

* Numbers of *Kalosh* Indians, whose custom is to burn their dead, abound in this region, which is now about to be made a penal colony for the United States.

parallel to each other through Texas. The Rio Grande del Norte rises in the Rocky mountains, flows through a nice valley in New Mexico, forms for several hundred miles the boundary between Texas and Mexico, and enters the *G.* of Mexico, being navigable 450 *m.* The Colorado drains a large district, and enters the *G.* of California. In its course is formed a *canon*, or gorge, above 400 miles long—a deep and narrow furrow—through which the stream flows with impetuosity. The Columbia or Oregon rises in the Rocky mountains, first turns *S.* through Washington territory, then flows *W.*, receives the *Snake* river; now forms the *N.* boundary of Oregon, rushes through the mountainous country with great force and, at Pacific City, falls into the sea. Its course is about 1,200 *m.*

Lakes.—The most important lakes have been described at p. 417.

Education.—This great country has made the most ample and liberal povision for education in every state of the Union, both by taxation and by endowment.

"The United States' Commissioner of Education gives, in his report, some statistics of 'illiteracy,' as shown by its census of 1870. Among the population ten years old and upwards, 5,660,074 were found to be illiterate, of whom 4,882,210 were natives, and 777,864 of foreign birth. According to residence, there were 4,189,972 illiterates in the Southern States, 1,356,102 in the Northern, and 114,000 in the Pacific States and Territories. According to colour nearly 2,900,000 were whites, and above 2,700,000 persons of colour. A table of ratios of illiteracy is given, showing that the illiteracy of the Northern is about one-half of that of the Pacific, and less than one-fifth of that of the Southern States; that the native illiteracy of the Northern division is less than one-tenth that of the Southern; that the white illiteracy of the Northern is less than one-half of that of the Southern; and the coloured illiteracy of the Northern is about 1-48th part of that in the Southern. Upon an average, in every 10,000 inhabitants there are 8,711 whites, 1,266 coloured, 16 Chinese and 7 Indians."

Population.—The last census shows that the whites number 33,586,989; the blacks, 4,880,000. There are 23,731 Indians, and (chiefly in California) 63,254 Chinese. There are 5,566,466 foreigners, principally Irish and Germans. The Indians are exclusive of about 142 tribes, or 288,716 persons of the wandering "red-skins," and about 75,000 Indians of Alaska,

American Railways.—The characteristic feature of the American railway system is the immense length of its several lines, particularly

the great line connecting New York with Sacramento. Taking Chicago (the greatest of the railway centres), we have, on the great western line, Iowa city, Omaha, Cheyenne (Denver on a branch), Benton, Ogden, and Sacramento.* From Chicago a main line runs E. of the Mississippi to New Orleans. In fact, all the important towns in the northern, and most of those in the southern states, are connected by railways. Several lines converge to New York.

Agriculture.—Agriculture is the most important industry, and the quantity of land under cultivation has of late years greatly increased. The system of tillage is now as good as any in the Old World. Most of the towns in the western states owe their recent rapid development to agricultural industry, combined with a little mining and lumber trade.

Wheat is very largely raised, Illinois being perhaps the best state for this crop. *Maize*, or Indian corn, is raised in every state of the Union, and affords an unfailing crop, producing food for man and beast. *Barley*, *oats*, *rye*, and *flax* are also much grown. *Cotton* is largely grown in at least eight of the Southern states. *Sugar* is principally cultivated in Louisiana and the adjacent districts. *Hops*, with New York as their chief centre, are raised in almost every state; and potatoes are as widely distributed. *Wine* is now produced in large quantities in California, Ohio, and Kentucky. *Tobacco*, though cultivated everywhere, has its chief seat in Maryland, Virginia, and Kentucky. *Rice* is principally produced in South Carolina and Georgia. *Fruit* is largely raised, and extensively used in confectionery. *Hay* and *pasturage* abound in every state.

Manufactures.—Though the manufactures are in their infancy, yet this country has the credit of exhibiting unusual inventive genius in the production of new machines.

The *Iron manufacture* is very important, its principal seat being Pittsburg, where every kind of locomotive engine and machinery is produced. Indeed, the state of Pennsylvania produced, until lately, three-fourths of all the iron, the rest being found in New York, Ohio, Massachusetts, Georgia, and South Carolina. *Cotton* is manufactured mostly in the New England states, with Massachusetts as centre, where, also, the *woollens* have their chief seat. *Leather* is produced to the greatest extent in New York, Massachusetts, and Pennsylvania, where the number of persons engaged in the boot and

* The station "Sherman," on the Rocky mountains, is 8,000 feet high.

shoe trade is enormous, particularly in the former. *Timber*, in felling, sawing, and making into furniture, etc., is a remunerative industry. In the production of *books*, Boston stands first. *Salt* refining, brewing, and distilling, give extensive employment. *Sugar* refining in Maryland is an important industry.

Petroleum.*—This oil, so greatly in use at present, is found in large quantities in the United States, Canada, and Mexico. It is found in springs among the coal beds; and these places, which are called oil-wells, are often 500 or 600 feet in depth. The largest production is at and around *Venango*, in Pennsylvania.

Minerals.—*Coal*, first in importance, is most extensive in Pennsylvania; *iron* in the same state; *gold* in California; *copper* in Michigan; *nickel* in Pennsylvania; *lead* in Illinois and other states.

REPUBLIC OF MEXICO.

Mexico is bounded on the N. by the United States, on the S. and S.E. by the gulf of Mexico and Central America, on the W. by the Pacific. Its length is 1,800 *m.*; breadth, 1,250 *m.* in the N., and 70 at the isthmus of Tehuantepec. The coast line in the gulf of Mexico is about 1,600 *m.*, and on the Pacific 4,200—roundly, 6,000 *m.* in all.

Much of the surface consists of an elevated plateau, supported by two mountain chains, one on the E., near the Gulf, the other on the W., near the Pacific. Some mountain peaks rise in this plateau to 17,000 feet. The surface has been divided into three districts: (1) the "hot lands" (*Tierra caliente*), a narrow belt on each coast, reaching up to the mountain sides about 3,000 feet, with a mean temperature of 77°; (2) the "temperate lands" (*Tierra templada*), embracing elevations from 3,000 to 8,000 feet, and including the central plateau, with a mean temperature of 68°; (3) the "cold lands" (*Tierra fria*), which comprise the tops of the high mountains, some of which reach above the snow line, but at Mexico city the mean temperature is 64°.

In consequence of the internal disputes and civil discords, this country is in a very backward state, and every industry is in a languishing condition. It was overrun by Cortes, in 1520, a Spanish adventurer, by whom the conquered were treated with severity.

Mexico is divided into fifty departments, most of which bear the same name as their capital towns.

* From *petra*, a rock, and *oleum*, oil.

TOWNS.

Mexico (200,000) is a splendid city, standing on a table-land 7,468 feet above sea-level, in a vale between hills. The streets are wide, and the houses, though only one story, well-built, and greatly ornamented in front. Flowers and fruits are brought in from the country in great quantities for sale. There is little appearance of industry—gambling, smoking, and intrigue being the most attractive pursuits. At three miles distance on the E. is *L.* Tercoco, whose waters often flow up to the city, though its depth is only three feet.

Puebla (75,000), the second largest town, is also on a table-land of the same elevation. It is well built, has wide streets, and handsome squares. Its trade and manufactures are extensive, particularly in glass, soap, and earthenware. It was bombarded and taken by the French in 1863, and by the United States in 1847. It is between the capital and **Vera Cruz** (10,000) (*G. of Mexico*), a port, in a marshy situation, noted as the abode of pestilence; **Guadalajara** (70,000) (*Santiago*) has trade in earthenware and leather-work. **Guanajuato** (60,000) has important and prolific silver mines in the neighbourhood. **Queretaro** (48,000), N. of the capital, with woollen manufactures, was the scene of the tragic end of the Emperor Maximilian (1867), who was shot here, having been betrayed by Lopez. **San Luis** (40,000), N. of the capital, among the mountains, is in an important mining district. **Matamoras** (40,000) (*Rio Grande*) is an active port, which was much resorted to during the Civil War in the United States, 1862-6. **Colima** (30,000) (*Pacific*), almost exclusively inhabited by Indians, is an active port. **Oaxaca** (25,000) is in a delightful valley. It has a cathedral, and many factories of sugar, cotton, perfumery, etc. **Zacatecas** (25,000) is a mining city, 260 miles N.W. from Mexico. **Morelia** (23,000) enjoys a delicious climate. It has a cathedral. **New Santander** (*Santander*) is a rising port on the E. coast. **Durango** (22,000) is a handsome cathedral city, with some manufactures: near are gold, silver, and iron mines. **Mazatlan** (*Pacific*), at the entrance of the *G.* of California, is a neat town, with some trade. **Xalapa** or **Jalapa** (10,000) is 50 *m.* N.W. from Vera Cruz, gave its name to a well-known drug found in the neighbourhood. **Tampico** (7,000) (*G. of Mexico*) has active trade. **Acapulco** (5,000) (*Pacific*), on a splendid harbour, exports a little indigo, silver, cochineal, and skins. **Merida** (40,000) lies 25 *m.* inland. It is the capital of Yucatan, and has for its port *Sizal.* **Campeachy** (15,000) is 95 *m.* to the S.W.; it is situated on the bay of the same name. It exports cotton, cigars, wax, and wood. **Carmen** (*G. of Campeachy*) is a free port.

NOTE.—A country subject to civil war, with its evil attendants, for so many years as Mexico has been, must be backward in education, enterprise, and industry.

Mountains.—The mountain system is very peculiar, most of the peaks rising from the table-land as from a base. In the S. they rise little higher than the table-land; but in the N. three ranges are distinguished, one of which enters the United States—the *Sierra Sonora*, on the borders of the *G. of California*. *Sierra Madre* in the centre, is said to be richer in minerals than any mountain in the world.

Popocatepetl, "mountain of smoke," an active volcano, is the culminating point of the Mexican mountain system. About 12,000 feet up its sides it is covered with plantations. It rises to 17,700 feet. *Colima* is also an active volcano near the Pacific. *Jorullo*, in 1759, rose from a level with the plain to 4,400 feet; and seven years before the bed of the Del Norte became dry for 150 miles among the mountains on the borders of the United States. *Orizaba* (17,400), near the town of the same name, is an extinct volcano.

Rivers.—The country is very badly watered, most of the rivers being short. The Rio Grande, already described. The Santiago rises in the table-land near Mexico city, passes through *L.* Chapala, and enters the Pacific. The *Colima*, *Balsas*, and *Tehuantepec* flow into the Pacific. The rivers of Mexico have many rapids, and are in general unsuitable for navigation.

Lakes.—*Xaltocan* (with an area of 30,000 square miles), *San Cristobal*, *Tezcoco*, etc.

Productions.—In minerals, Mexico is considered one of the richest countries in the world; but the inhabitants have neglected the more useful ones for the precious metals, which yield a more precarious supply. Tobacco, sugar, coffee, cotton, cocoa, pepper, drugs, spices, gums, maize, with oranges, lemons, mahogany, and india-rubber, are the chief productions. Maize is the chief article of food. Dye-woods are found in many places; oak, ebony, rosewood, and mahogany are exported from the forests.

Animals.—Among the wild animals are the grizzly bear, bison, tapir, jaguar, wolf, lynx cat, monkey, alligator, rattlesnake, with parrots, and many other birds of brilliant plumage. Sheep, horses, and mules are exported. Cochineal insects are carefully preserved.

Inhabitants.—The population is made up of (1) *Creoles* or Whites, about 300,000, the chief landed proprietors, or aristocracy; (2) descendants of the ancient Spaniards, chiefly small landowners, lawyers, or members of the army or civil service, about 800,000; (3) the *Indians*, about 5,000,000, who are in a state of abject misery and

serfdom; (4) the *Mestizos*,* or mixed rāces, consisting of many classes in about 1,500,000; (5) the Europeans, consisting of Spanish, French, and Germans. Some savage tribes of the Indians still rove about on the mountains, and plunder whoever they can.

Education.—Education is backward, though of late improving. There is a university at Mexico; and the Church, which is almost exclusively Catholic, is under an archbishop and eleven bishops. A school of mining and a medical school have been opened.

CENTRAL AMERICA.

Central America extends from 8° to 18½° N. latitude, and from 82½° to 92½° W. longitude. It includes five republics and a territory, which may be tabulated as follows:—

States.	Area, Sq. miles.	Population.	Capitals.
1 Guatemala,	40,781	1,180,000	New Guatemala.
2 San Salvador,	7,355	600,000	San Salvador.
3 Honduras,	47,095	350,000	Comayagua (*Humuya*).
4 Nicaragua,	58,173	400,000	Managua (*L. Managua*).
5 Costa Rica,	21,495	135,000	San José (*Grande*).
6 Belize,	14,500	25,635	Belize (*E. coast*).

This district connects Mexico with S. America, and includes five republics and one district. Its length is about 1,400 *m.*, and its breadth varies from 30 to 300 *m.* Industry is still very backward. Agriculture and cattle rearing are the chief pursuits, and though mining is in a backward state, silver, gold, and metals are exported.

Guatemala, in the N., stretches from sea to sea. It contains a plateau 6,000 feet high, produces cochineal, indigo, coffee, and India-rubber, and contains the ruins of many ancient edifices. The president is elected for life.

New Guatemala (40,000), the largest town in Central America, is 120 *m.* from the Atlantic, and 50 from the Pacific. It is 4,970 feet above sea-level. It is a well-built city with a university, and houses of only one storey. The inhabitants are skilful in embroidery, muslin, silk, and cotton manufactures. **Istapa** is a port on the Pacific; and

* These consist of *zambos*, or the children of an Indian and a negro; *mulattoes*, or the issue of a white and a negress; *terzerons*, or the issue of a white and a mulatto female; *quadroons*, or the issue of a *terzeron* and a white, and so on.

St. Thomas on the *B.* of Honduras. Old Guatemala (10,000), was nearly destroyed by an earthquake in 1774. Two volcanoes are near it, both rising nearly 14,000 feet above sea-level. San José is a port on the Pacific.

San Salvador lies along the Pacific; though the smallest state, it has the greatest population in proportion to its size. The surface is hilly and mountainous. It produces the famous balsam of Peru, indigo, rice, and ores. The president is elected for six years.

San Salvador (20,000), the capital, is some miles from the Pacific. Cojutapeque is the only other inland town. There are three seaports—Acajutla, Libertad, and La Union.

Honduras lies on the Caribbean Sea. It has splendid forests of mahogany and other woods, together with minerals.* Its president is elected for four years. The trade is chiefly with Great Britain.

Comayagua (8,000) (*Humuya*), near the centre of the state, was formerly much more important. Omoa,† the chief port, is about a quarter of a mile from the sea, and is said to be the hottest place in the world. Truxillo is also a port in this state, in an unhealthy position. Here the filibusterer, Walker, was shot, 1860.

Nicaragua, the most thickly wooded district of Central America, has an extensive coast-line on both seas. It contains the large lake of the same name, drained by the river *San Juan*. The *Blewfields* and *Wanko* also flow eastward. The district is hilly, and very thinly populated. Since 1860 *Mosquito*, a rather healthy coast district (area, 15,000 *sq. m.*), has belonged to it. It produces timber and tropical plants.

Managua (50,000), the capital, is on a lake of the same name. Leon (100,000), a university city near the W. coast, was the former capital. Greytown, on the coast, has an excellent harbour. Blewfields is a badly-built town. It was, until lately, the residence of an Indian king under the protection of Britain. Nicaragua (18,000) is E. of the lake of same name. Grenada (10,000) is an important trading town on the lake.

Costa Rica also extends from sea to sea, and is naturally divided by a range of mountains into the basin of the

* Bamboos reach the height of 50 feet; bananas, plantains, and Indian corn grow profusely. The leaves of the capron tree are 7 feet in length. In the interior of the country are expansive swamps.

† It was bombarded (and two prisoners compelled to be given up) by an English man-of-war, 1873.

Pacific and that of the Caribbean sea. It has coal, and valuable woods; coffee is the staple export. It has some gold mines. The president is elected for three years.

San Jose (20,000), in the mountain region, is subject to volcanic action. Cartago is nearly in ruins. Punta Arenas is the chief port.

Balize, Belize, or British Honduras, lying S.E. of Yucatan, and N.E. of Guatemala, extends about 150 miles inland. It is a dependency of Jamaica, and has very valuable forests of mahogany and logwood.

Balize is a town entirely built of wood, the chief trade seat of the country.

Mountains.—The mountains are here more of the table-land form. The plateaux consist of that of *Guatemala* (4,000 feet), *Honduras* (4,000 feet), and *Costa Rica* (2,000 feet). Some of the mountain peaks rise to a considerable height. The volcanoes in Guatemala, for instance rise to 13,000 feet; mount *Irasu* in the S. 11,000 feet, and *Pico Blanco*, also in the S. 11,000 feet.

Rivers.—The *San Juan*, which, on account of rapids, is unfavourable to navigation, runs into the Caribbean sea. The *Rio Dulce* flows into the Bay of Honduras.

Lakes.—*Nicaragua*, *Managua*, *Golfo Dulce*, and *Peten*, with many smaller ones.

Inhabitants.—These consist of the descendants of the Spaniards, by whom the country was conquered, 1524, and the mixed race, the offspring of the Europeans and Indians. Revolutions are frequent. The *Ladinos*, a cross-breed on the coast, are about the worst race of men known.

THE WEST INDIES.

The West Indies consist of a great number of Islands extending from Florida to the coast of S. America, in a S.E. direction. They include three groups—the Greater Antilles, consisting of the four largest islands in the centre of the group; the Lesser Antilles, which are divided into the *Virgin*, or *North Caribbees; Windward*, or *South Caribbees;* and the *Leeward*, or Venezuelan coast islands. In addition, the Bahamas, which are S.E. of Florida.

THE FOLLOWING TABLE GIVES A GENERAL VIEW OF THESE ISLANDS:—

Island.	Area, Sq. mls.	Population.	First Occupied by	Chief Town.
BRITISH ISLES.				
Bahamas,	5,000	35,000	Spain & Eng. 1629	Nassau.*
Jamaica,	6,400	506,433	Spain, 1510,	Spanish Town.* Kingston.
Caymans,				
Virgin Isles,	144	6,051	Dutch, 1648,	Roadtown.*
Anguilla,				
Barbuda,	25	2,500	England, 1640,	
St. Christopher,	68	28,700	Do., 1632.	Basse-terre.
Nevis,	50	12,000	Do., 1625,	Charlestown.
Antigua,	108	35,000	Do., 1632,	St. John.*
Montserrat,	54	9,050		Plymouth.
Dominica,	288	29,000	French, 1610,	Roseau.
St. Lucia,	300	31,000	English, 1638,	Castries.
St. Vincent,	130	36,000	French, 1719,	Kingstown.
Barbadoes,	166	163,000	English, 1625,	Bridgetown.*
Grenadines, Grenada,	138	38,000	French, 1650,	St. George.
Tobago,	99	16,900	Dutch, 1632,	Scarborough.
Trinidad,	2,000	110,000	Spain, 1535,	Port of Spain.
SPANISH ISLES.				
Cuba, Pinos,	49,094	1,396,530	Spain, 1511,	Havannah, Trinidad. Cuba, Matanzas.
Puerto Rico,	4,013	583,308	Do., 1509,	San Juan de P. R.
FRENCH ISLES.				
St. Martin (N. pt.)	30	6,366	France, 1635.	
Desirade, Guadaloupe, MarieGalante Les Saintes,	635	151,000	Do.,	Basse-terre. Point-à-Pitre.
Martinique,	181	139,000	Do.,	Fort Royal. Saint Pierre.
DUTCH ISLES.				
St. Martin (S. pt.)			(See above.)	
Saba	15	1,617	Spain, 1643	
St. Eustatius,	190	2,000	Do.	
Buen Ayre,	82	2,300	Do.	
Curaçao,	171	20,000	Do.	Wilemstad. Curaçao.
Oruba,	57	1,500	Do.	

* One of the five British Governments.

Island.	Area.	Population.	First Occupied by	Chief Town.
DANISH ISLES.				
St. John, .	154	44,000	Danes, 1717,	St. John.
St. Thomas,			Do., 1671,	St. Thomas.*
Santa Cruz,	74	23,000	Dutch, 1643,	Christianstad.
SWEDISH ISLE.				
St. Bartholomew,	16	3,000		Gustavia,
VENEZUELAN.				
Margarita, Tortuga, .	380	32,000	French, 1635.	
INDEPENDENT.				
Hayti, or St. Domingo,	28,000	700,000	Spaniards, 1493	Port-au-Prince. St. Domingo.

St. Eustatius (6,000) is a free port in the isle of the same name, and has trade with Europe. Gustavia (10,000) is also a free port.

THE BAHAMAS.

The Bahamas all belong to Great Britain. They consist of *Great Bahama, Andros, New Providence, San Salvador* (on which Columbus first landed), *Long Island*, etc. They produce some cotton, sponges, guano, etc.

Nassau (7,000), on New Providence, is the capital. It has a good harbour.

THE GREATER ANTILLES.

Cuba, the largest of the West India islands, is 700 miles long, and 130 broad; has among its inhabitants about 700,000 whites and mulattoes, and 600,000 negro slaves and Chinese coolies. It is rich in minerals and vegetables. The *Sierra del Cobre* (7,200 feet) furnish one-sixth of the copper produced in the whole world. Coal abounds, and the mountain slopes are covered with mahogany and other timber.

* The central packet station for the whole islands, and the chief entrepôt for merchandise between Europe and the United States. Numbers of European merchants have branch establishments here.

About 2,500,000 acres only are cultivated, teeming with maize, yams, potatoes, sugar, coffee, cotton, tobacco, and indigo; sugar and tobacco being the staples. The inhabitants are active and energetic. Slavery prevails, but free labour by the coolies is gaining much popularity. The Americans are the principal manufacturers, except cigar makers. The shopkeepers are mostly Germans.

Havannah (200,000) stands on the N. coast, on a splendid harbour. Its cathedral is the chief public building. Here lie the remains of Columbus. **Matanzas** (35,000), about 50 miles to the E., is a rising seaport. **Santiago** (37,000) is the principal port in the S.E. **Puerto Principe** (30,000) is a pretty good town in the interior.

Jamaica, "land of springs and woods"—the most valuable of the West Indian possessions of the British Empire, is situated 80 miles south of Cuba, and about 100 west of St. Domingo, has a length of 150 miles, and an average breadth of 40, with a population, all of which, except 13,000, are blacks. The *Blue Mountains*, a lofty range, traverses the entire island from E. to W., and sends out to the coast rippling streams, none of which, except the *Black River* in the S.W. of the island, is navigable.

The island, north of the mountains, has the most imposing scenery; green slopes rise from the shore; tier after tier of hills clad with delightful tropical vegetation, and, still higher, with that of more temperate climes, tower in succession until they finally blend with the great range. Between the hills are fertile valleys, interspersed with brawling streams or noiseless rivers meandering towards the sea. On the southern declivity of the mountains the descent is more rapid, more rugged, but much less picturesque. The climate of the island, except in the elevated regions, is excessively hot; the sugar-cane, maize, rice, yams, coffee, and cotton, are cultivated; the forests produce excellent timber; vegetables are numerous, and no part of the New World yields more excellent fruits. Horned cattle, sheep, goats, and hogs abound; and its rivers and seas produce many varieties of excellent fish. Sugar and rum are greatly exported, though lately the former has much declined. The government, which meets in Spanish Town, the political capital, consists of a governor and council, appointed by the crown, and a house of assembly elected by the

people, many members of which are coloured. Jamaica was discovered by Columbus in 1494; in 1655, it was taken by Admirals Penn and Venables; in 1834 the slaves were emancipated; in 1831 an insurrection of the slaves broke out, many plantations were burned, and with difficulty they were overpowered by the governor, Lord Belmore; in 1815 the island was visited by a great deluge, hundreds of houses having been washed away; in 1795, and 1745, and 1866, insurrections also broke out. This isle has only 20 miles of railway, while Cuba has 1,000 miles.

Kingston (35,000) exports sugar, coffee, molasses, rum, indigo, cocoa, etc. **Spanish Town** (5,000) is the residence of the governor. **Port Royal** (15,000) is strongly fortified.

Puerto Rico belongs to Spain. It is a beautiful island with a diversified surface.

San Juan (30,000), the capital, is on the N. coast. It has a good harbour, and is well fortified.

Santo Domingo,* Hispaniola, or Hayti, is about 360 *m.* long, with a fine climate, a fertile soil, valuable fisheries, mineral wealth, and good forests of mahogany, etc.; it is the most fruitful island in the West Indies, and exports sugar in large quantities. Coffee is also exported. Its surface consists of ranges of mountains, from 2,000 to 3,000 *ft.* high, but Mount *Cibao*, near the centre of the island, reaches of 8,000 *ft.* The coast has many good harbours. The climate is unhealthy for Europeans.

Port Republican (20,000) has considerable trade with the United States and Jamaica. It has some good public buildings.

San Domingo (15,000) is the oldest European settlement in America, having been founded by Columbus, 1504. **Santiago** (12,000) is a port on the N. coast; but **Porto Plata** on the same coast is now much more commercial.

LESSER ANTILLES.

The Virgin Islands export sugar, molasses, rum, and copper. They are Anagada, Tortola, and Virgin Gorda.

Tortola is the capital of the English Isles, and **Christianstadt** (8,000) of the Danish. **St. Thomas** has postal communication with Havannah, Demerara, Nicaragua, and Jamaica.

* It formerly was divided between France and Spain; now it consists of two republics—the Haytian in the W., and the Dominican in the E., the capital of the one being Port-au-Prince, or Port Republican, and of the other San Domingo. About one-third of the population belongs to the latter republic. French is the language of Hayti, and Spanish of San Domingo.

The **Leeward Islands** are Antigua, Anguilla, St. Christopher, Barbuda, Montserrat, Nevis, and Dominica.

The largest towns are **Gustavia** (10,000), **Point-à-Pitre** (10,000), **Basse Terre**, in Guadaloupe (6,000), and **Basse Terre**, in St. Christopher (9,000), has a bad harbour.

The **Windward Islands** are Barbadoes, Trinidad, St. Lucia, Tobago, St. Vincent, Grenada, and the Grenadines.

The largest towns are **Port of Spain** (12,000) in Trinidad, **Bridgetown** (20,000), **Kingston** on St. Vincent (5,000), and **St. George** (5,000).

The following are properly the Venezuelan Isles :—*Martinique, Curaçao, Buen Ayre,* and *Oruba.*

The Turk Isles, now belonging to Britain, are S. of the Bahamas.

The governor of Barbadoes has £4,000 a year; the governor of Hong Kong, £5,000; Falkland Isles, £1,200; Natal, £2,500; Bahamas, £2,200, etc.

Productions, etc.—The most important productions of the West Indies are sugar, rum, coffee, allspice, cotton, tobacco, citron, yam, pepper, indigo, jalap, ginger, oranges, lemons, and figs. The *Birds* are of great variety, and exhibit beautiful plumage. The productions are of much less importance since the abolition of slavery, the negroes being too slothful to engage voluntarily in active labour. The *Minerals*, particularly copper, are very valuable. Lead, silver, coal, tin, and iron, are also found.

Education is very backward among these islands. Most of the wealthy classes send home their children to be educated in Europe. A good system of primary education has lately been introduced into Trinidad, with promising prospects, by P. J. Keenan, Esq., C.B.

The **Bermudas**, or Somer's Islands, an important naval station, consist of above 400 islets, which enjoy a perpetual spring, but are subject to hurricanes. Convicts, are employed on the government works.

Hamilton, the capital, is on Long Island, the largest of the group. **St. George** is on the island of the same name.

SOUTH AMERICA.

South America extends from 11° 20′ to 55° 58′ S latitude, and from 35° to 81½° E. longitude. Its length from Cape Gallinas to Cape Froward, on the straits of Magellan, is about 4,500 miles; and its breadth from Cape Branco, its most eastern, to Cape Parina, its most western point, 3,000 miles; under the equator is 2,100; and at Buenos Ayres 900 miles. In the following table the States of South America are conveniently arranged.

STATES OF SOUTH AMERICA.

States.	Government	Area. Sq. miles.	Population.	Capitals.
1 Brazil, - -	Empire,	3,230,000	11,780,000	Rio deJaneiro.
2 Venezuela, -	Republic,	368,220	1,565,000	Caracas
3 Colombia, -	Republic,	514,000	2,794,473	Bogota.
4 Ecuador, -	Republic,	285,350	1,040,370	Quito.
5 Peru, - -	Republic,	510,100	2,500,000	Lima.
6 Bolivia, -	Republic	565,000	1,987,350	Chuquisaca.
7 Chili, -	Republic,	132,609	2,084,945	Santiago.
7 Patagonia-	Colony,	356,000		Port Julian
8 La Plata, -	Republic,	542,800	1,465,000	Beunos Ayres.
9 Paraguay, -	Republic,	89,259	1,337,440	Asuncion.
10 Uruguay, -	Republic,	71,737	240,965	Monte Video.
11 British Guiana,	Colony,	76,000	195,026	Georgetown.
12 Dutch do.	Colony,	58,800	110,118	Paramaribo.
13 French do.	Colony,	35,080	24,432	Cayenne.
14 Falkland Isles,	*Br.* Colony.	13,000	812	Stanley.

Bays, etc.—Commencing at the isthmus, and going E. round the coast, are, *Darien*, *Venezuela*, *Paria*, gulfs; *Santos* or *Bahia*, *Anna*, bays; gulfs of *San Mathias* and *St. George*. On the Pacific coast, *Guayaquil*, *Penas*, *Trinidad*, gulfs.

Islands.—The *Venezuelan* coast-range, *Joannes* in the mouth of the Amazon, the *Falkland Isles*, *Tierra del Fuego*, and *Staten* isles in the S.; *Chiloe*, *Galapagos*, *Chincha*, *Juan-Fernandez*, *Felix*, *Wellington*, *Hanover*, *Queen Adelaide*, and many others in the Pacific.

Straits, etc.—*Magellan*, and *Le Maire*, on the S.

Capes.—On the W. coast. *St. Francisco*, *Point St. Helena*, *Blanco*, *Ahuja* (point), *Froward*; the most S. point, *Cape Horn*, is 3,000 *ft.* high; on the E., *St. Roque*, *Frio*, *Antonio*, *Corrientes*, and *Three Points*; on the N., Cape *Do Norte*, and *Point Gallinas*.

Mountains.—The *Andes* or *Cordilleras*, running from N. to S., near the coast; the *Parimé*, in the S. of Venezuela; the Brazilian mountains which consists of many chains.

The Andes constitute a mountain system only inferior to the Himalayas, composed of a series of mountain chains, more or less parallel to each other, and inclosing vast elevated plains or table-lands, with several great groups, like knots or articulations, separating them at distant intervals; they have a length of about 4,500 *m.*, a gigantic range, consisting of mountain highland, of volcanic formation, with numerous summits above 20,000 *ft.* in height.

In *Patagonia* they extend 970 *m.*, with an average elevation of 3,000 *ft.*, *Yanteles*, an active volcano (8,030 *ft.*), and *Mount Darwin*, on the island of Tierra del Fuego (6,800 *ft.*), being the highest peaks. In *Chili* they have a length of 1,250 *m.* The Cumbre pass enables travellers to cross from Mendoza to Valparaiso, by going over the mountains at an elevation of 12,700 *ft.* On the E. side of the range, between 33° and 24° S. latitude, two chains, the *Sierra de Cordova*, advancing into the E. plains, and the *Sierra de Salta*, form buttresses, as it were, to the main range. The mountain is more steep on the E. than on the W. side. *Aconcagua*, the highest peak in the New World, and the highest known volcano (23,290 *ft.*), is 32° 38′ S. In *Peru*, they extend about 1,250 *m.*, separating into two branches near Potosi, called the E. and W. Cordilleras of Bolivia, which enclose a vast plateau,* and reunite after 350 *m.* The E. branch contains *Illimani* (21,150 *ft.*), near La Paz; *Sorata* (21,286 *ft.*). A lateral branch, called *Cochabamba*, runs E., and forms, to a certain extent, the watershed between the Amazon and La Plata. N. of the plateau there is a vast knot of mountains covering an area three times as large as Switzerland, out of which a second separation of the range takes place, enclosing a second table-land, *Pasco*, 11,000 *ft.* high. Further N. they separate into three distinct ranges, which re-unite

*This table-land, which contains Lake Titicaca, is 12,700 feet above sea-level, and has an area about as large as Ireland.

at the group Loxa, which goes N. in two chains, which enclose the valley of *Cuença*, and on re-uniting form the plateau of Assuay, 15,500 *ft.* high, N. of which two ranges are again discernible; the E. containing *Chimborazo* (21,424 *ft.*), and *Yliniza* (17,386), and the W. *Cotopaxi* (18,885). A little S. of the large Quito table-land they re-unite, and bordering this plateau are *Antisana* (19,136), and *Cayambe* (19,648), *Pinchincha* (15,924), and *Cotochache* (16,428) to the W., with many other large volcanoes. After several smaller groups, the Andes in New Granada run in two chains, which never again unite. This range is an additional example of the fact, that the rivers which proceed E. are much longer than those that flow to the other side.

Plateaux-*Bolivia*, is the largest. It is 12,000 *ft.* high. *Cuzco* is about 11,000 *ft.* high, *Pasco* 16,000 *ft.*, and the *Brazilian* table-land is about 2,500 *ft.* The Quito plateau is 200 *m.* long.

The Rivers flowing N. are the *Magdalena;* N.E. the *Orinoco, Essequibo, Amazon, Paranahyba* and *San Francisco;* S.E. the *La Plata, Colorado,* and *Negro.*

The Magdalena rises in a *L.* in the Andes, and after a course of 900 *m.*, falls into the Caribbean sea. It is navigable for small vessels to *Honda*, 540 *m.* from the sea; and the *Cauca* is its chief tributary.

The Orinoco, "Coiling Snake," rises in the Parimé mountains, and, after a short course through a mountainous district, emerges into the wide level plains. After a course of 1,800 miles it discharges into the Atlantic. Like most large rivers whose lower course is level, it forms a nicely wooded delta. Its course is sluggish, and so level is its basin, that a wind contrary to the main stream, or a rise in the river reverses the course of some of the tributaries. During the rainy season it overflows its banks and inundates the surrounding country. The cattle, which roam in countless herds over the plains, are now driven to the heights for shelter. After the rainy season the inundation subsides, the river resumes its original course, and rich vegetation springs up, quickened into maturity by the powerful heat of a tropical sun. The river abounds in alligators, and in the small tributary streams are gymnoti or electrical eels, which have the wonderful power of conveying an electric shock to animals. The Orinoco is 25 *m.* wide at the mouth, drains an area of 400,000 *sq. m.*, and conveys an immense body of water to the ocean. The tide goes up 250 *m.*

The **Amazon**, the largest river in the world, rises amid the snow and glaciers of the Andes, and after receiving the tributary waters, which drain a million and a-half square miles, rolls its vast volume into the Atlantic, 4,000 miles from its source. Issuing a considerable river from the icy and majestic Andes, it flows for a long distance under the shadow of those lofty peaks capped with eternal snow. Its upper course is singularly grand and impressive: through mountain gorges of prodigious depth and surpassing beauty it dashes in wild fury. Nothing breaks the stillness save the echoes of its falls reverberating along the craggy cliffs, until they are lost amid the eternal solitudes. It winds through the immense silvas, one of the most rainy districts on the globe, where several streams swell the mighty volume. The chief tributaries are the *Rio Negro*, on the N., the *Madeira*, *Puras*, and *Tapajos* on the S. These rivers, in any of the other continents, would not be tributaries, but vast main arteries, penetrating leagues into the interior, draining large tracts of country, and having distinct physical features of their own. After its junction with the *Rio Negro* it continues its lazy flow for a distance of 315 leagues before reaching the sea. Its course is now through primeval forests of almost endless extent, where the stillness of nature reigns, adorned by every species of vegetation, from the tiny plant to the colossal tree. The breadth of the river in the plains is from two to three miles, which increases towards its mouth, where it reaches the extent of fifty. It flows into the sea in a vast estuary, its current being felt in the Atlantic 300 miles from the land. A great struggle arises daily between the river and the tide. A high ridge of surf and foam is formed by the opposing waters; and even the islands in the neighbourhood seem shaken by the dreadful collision: fishermen, boatmen, and alligators withdraw trembling from the spectacle. At spring-tides these collisions are still more boisterous; the waves run mountains high; the surf boils in angry foam, and large rocks are [illegible] up on the beach, torn from the surrounding coast by the force of the sea. The awful roar warns the mariner that his frail bark cannot be trusted in proximity to such dreadful fury. The island of *Joannes* and some smaller ones are at the mouth of this river. The Amazon is navigable to nearly the base of the Andes; the tide flows up 550 miles. The *Xingu* and *Tocantins* (the latter with a course of 1,100 miles) flow into its estuary.

The **La Plata** is one of the most magnificent of rivers. It is formed by the united waters of the *Paraguay*, *Parana*, and *Uruguay*, which, collectively, are navigable for several thousands of miles. These three rivers rise in the mountain ranges of Brazil. The *Paraguay* is the

longest, and in its lower course, at periods inundates the country, forming the lake or swamp *Xarayes*. The largest affluents of the Paraguay are the *Pilcomayo* and *Vermejo*. After a course of 1,000 *m.* the Parana joins the Paraguay at Corrientes. The river is now known as the *Parana*, a steady, constant stream; and its breadth varies from one and a-half to two miles. This increases, until at last it expands into a noble estuary, 80 miles wide; but at Buenos Ayres its breadth is 29 *m.* Opposite this city it receives the *Uruguay*, a large tributary, 800 *m.* in length, whose volume has extraordinary fluctuations, rising at the flood in September and October 3 feet a day. These three rivers now form a great estuary 100 miles broad, on which ships may sail without seeing land. The basin which the La Plata drains is above 1,000,000 square miles in extent, and the volume of water it conveys to the sea is only surpassed by that of the Amazon. The chief ports are Buenos Ayres and Monte Video. Rosario, Corrientes, and Asuncion are on the Parana.

Lakes.—*Titicaca*,* *Maracaybo*, *Merim*, *Capar*, and *Grand Lake*.

Animals.—On the plains are small deer, foxes, hares, lizards, armadillos, ostriches; on the mountains condors, eagles, wild cats, vultures, etc., while among the woods are pigeons, green parrots, etc.

BRAZIL.

The empire of Brazil† is bounded on the N. by the Atlantic, Guiana, and Venezuela; on the W. by Ecuador, Peru, Bolivia, Paraguay, and La Plata; on the S. by Uruguay and La Plata; and on the E. by the Atlantic.

It extends from 4° 25′ N. latitude, to 34° 12′ S.—about 2,500 *m.*—and between 34° 47′ and 72° W. longitude. Its coast-line is about 3,700 *m.* It contains 20 provinces—16 along the coast, and 4 inland. No country possesses so many large rivers and forests, consisting of beautiful and valuable woods. Wild cattle roam about in immense herds. The surface rises from the coast by gentle gradations to 4,000 or 5,000 feet above sea level, and the valleys produce sugar, coffee, cocoa, etc. The minerals are very valuable, and include gold, diamonds, silver, coal, and iron. The language is Portuguese.

Rio de Janeiro (350,000), "the city of palaces," usually called *Rio* by sailors, is a large commercial town, situated on the W. shore of a spacious bay, entered by a narrow strait, and completely land-locked, forming a magnificent harbour. Its streets and squares are

* Two steamers, which use llama dung as fuel, now ply on it. It has no outlet; is the highest large body of fresh water in the world; never freezes; true altitude. 12,493 feet; about the size of L. Ontario; no trees within 150 miles of the lake.

† It was discovered by the Portuguese in 1500, to whom it belonged until 1822, when it became an independent empire under a Portuguese prince. Its inhabitants include 1,400,000 slaves. There are also 500,000 Indians.

well laid out, and its cathedral, college, exchange, and library are excellent buildings, in the European style. Its export trade includes coffee, sugar, rum, hides, timber, rice, tapioco, and tobacco.*

Bahia or San Salvador (120,000), on All Saints' bay, is the next most important port. It is divided into two parts—the upper, inhabited by the wealthy, and the lower, skirting the shore for about four miles. **Pernambuco** (50,000) includes *Recifé*, or the "Reef," the chief seat of foreign commerce; *St. Antonio*, on an island, with many good shops; and *Boa Vista*, inland. This town exports cotton, hides, and sugar. **Maranhao** (36,000) is on an island off the N. coast. It is a pleasant, well built town, with active trade. Its rainfall is said to be 280 inches. **Alcantara**, to the W., on the mainland, is a growing port. **Ouro Preto**, or **Villa Rica** (15,000), is 200 miles N.W. from the capital. There are gold mines in the neighbourhood. **Mariana** (6,000), in the interior, is on a plateau 3,000 feet high. **Parahyba** (16,000), on the E. coast, has a cathedral, several churches, and a college. It has a military arsenal. **Para** (13,000), at the mouth of the Tocantins, has a difficult entrance. The other towns are **St. Paul** (20,000), which exports sugar and coffee, **Port-Allegro** (14,000) **Santos** (6,000), and **San Pedro** (6,000), all on the coast.

VENEZUELA.†

This republic extends from New Granada along the coast of the Caribbean sea to Guiana, a distance of 1,600 miles, with the empire of Brazil on the S. and Colombia on the W. The Orinoco, which traverses it from west to east, is the principal river, and the Parime mountains run in the same direction on the borders of Brazil. The Andes enter it on the north-west, and are continued in a coast-range of much less elevation. Lake Maracaybo, with a bar at its entrance, has an area of 7,800 square miles. About three-fourths of the surface are covered with *Llanos*, on which millions of cattle are grazed, the staple wealth of the country. The forests yield valuable woods; and coffee, maize, cotton, sugar, and indigo are exported.

* *Rio de Janeiro* means "river of January;" *bahia*=bay, *rica*=rich, *villa*=a town, etc.

† When the first European explorers entered the gulf N. of L. Maracaybo, they perceived the inhabitants living in pile dwellings, which reminded them of Venice; they called the country Venezuela, "the little Venice."

Caracas (50,000) is about sixteen miles from the N. coast, with *La Guayra* as its port.

Maracaybo (20000) on a lake of the same name, has active commerce. **Valencia** (16,000) has also important trade. **Cumano** (7,000) is the oldest Spanish settlement. **Barcelona** (10,000) is extremely unhealthy. **Cabello** is a good port. **Varinas** produces tobacco. **Ciudad Bolivar** (7,000) is in the valley of the Orinoco.

COLOMBIA, OR NEW GRANADA.

New Granada, in the N.W., embraces the isthmus of Darien, and was one of the oldest Spanish colonies. Near the Pacific the country is mountainous, but in the W. it consists of plains. Several peaks of the Andes rise here above 18,000 feet. Between two of the mountain chains is the valley of the *Magdalena*. The plains on the E. exhibit, in the rainy season, luxuriant pastures, but in the dry, resemble parched deserts. On these plains immense herds of horses, mules, and horned cattle are reared; and from the forests, dye-woods and bark are obtained. Emeralds, iron, copper, tin, lead, and sulphur, are the chief mineral treasures; and coffee, cocoa, sugar, tobacco, and rice, the principal crops.

Santa Fé de Bogota (45,000), on a plateau of the Andes, is 8,690 feet above sea-level. It has a university and many fine churches. The climate is almost a perpetual spring.

Panama (10,000), the terminus of the railway across the isthmus, is a well-built city on a good harbour. **Aspinwall** is at the other end of the railway. **Cartagena** or **Carthagena** (16,000) is the chief naval arsenal of the state. In 1741 it was attacked by the British. **Santa Marta** (10,000) is a declining town on the coast. **Tunja** (10,000), once the capital of an Indian state, has some coarse woollen manufactures. **Popayan** (20,000) is a large town with a delightful climate. Here in 1819, the Spaniards were defeated by Bolivar. **Portobello** is a free port on the N. coast, taken by Admiral Vernon, 1739.

ECUADOR.

Ecuador, named from its position under the equator, has the volcanic *Galapagos Isles** as a dependency. The Andes run in two parallel ranges, and rise into many magnificent volcanoes. The desert plains between these high mountains are named *paramos*. The climate varies very considerably. The only river is the Guayaquil, navigable 40 miles from its mouth; excellent barks are exported.

Quito (75,000), almost under the equator, is 9,600 feet above sea-level, and enjoys perpetual spring. **Guayaquil** (20,000), lying low on the coast, is the principal port. **Cuença** (20,000) in the S., is a good town. **Loxa** has trade with Peru.

PERU.

Peru lies on the Pacific, S. of Ecuador, extending 1,500 miles along the coast, from 3° N. to 22° S. latitude—a breadth of 600 from E. to W. The Andes divide the surface into an arid belt about 50 miles broad, between the mountain and the ocean; a lofty plateau, 12,000 feet high, containing small lakes and morasses, but beautiful scenery at lower levels; and extensive plains on the E., watered by streams which join the Amazon. The latter are fertile. In the mountain region are some of the richest silver mines in the world; lead is also found, and gold in the S. The *Chinca Isles* are very valuable on account of their guano.

Lima (100,000) is an improving town, in a pleasant valley, partly surrounded by a wall, and entered by gates. Though the streets are narrow, there are many fine squares, and good public buildings. It has the oldest university in America, with a library of 20,000 volumes. The people are intelligent and gay, but much given to gambling.

Callao (20,000), its port, has extensive trade in bark, skins, silver and copper ores, wool, soap, and sugar. **Pasco** (16,000) is about 140

* So named from the large land tortoises which abound here, the word meaning "islands of land-turtles." They consist of ten large, and several small isles, visited by whalers, but without any settled residents.

miles N.E., and 10,800 feet above sea-level. It is the capital of the mining district. **Puno** (20,000), on L. Titicaca, is the highest town in Peru. It is 12,870 feet above sea-level. **Cuzco** (44,000) was the capital of the ancient Incas.* It is 11,380 feet above sea-level; and has manufactures of embroidery, cotton, and woollens. **Arequipa** (30,000) is very subject to earthquakes. **Truxillo** (14,000) and **Arica** are important ports. **Crucers** is an open plain 13,742 feet above sea-level, in the gold-producing province of Caravaya.

BOLIVIA.†

Bolivia has a limited coast-line between Peru and Chili. More than one-half of the population are Indians. The Andes overspread much of the country, particularly in the S., while in the N.E. are forest-clad plains, watered by the affluents of the Amazon and La Plata. Much of this country is still imperfectly known. The productions consist of gold, silver, precious stones, saltpetre, copper, and tin, with rice, sugar-candy, coffee, pepper, and drugs.

Chuquisaca (24,000) has a handsome cathedral and a university. It stands on a plateau which forms the watershed between the Madeira and Paraguay rivers.

La Paz (40,000), on the plateau S. of L. Titicaca, is a seat of trade with Peru. Near are rich copper mines. **Cochabamba** (40,000) is another important town. **Potosi** (23,000) is in the great silver mining district, and of much less importance than formerly. **Santa Cruz** (10,000), **Tarija** (10,000), and **Cobija** (2,000), the only ports of the country, are next in importance.

CHILI, OR CHILE.

This country consists of a long narrow territory, enclosed from the rest of S. America by the Andes. Its climate is

* Founded, according to tradition, in 1043. When Pizarro took it, in 1534, he was surprised at its magnificence. It contained a richly adorned temple of the sun; and showed many traces of civilization. It has a university.

† It was formerly called Upper Peru; but on becoming a republic, in 1825, it assumed its present name in honour of General Bolivar, who so greatly contributed to the achievement of the independence of the country.

salubrious; earthquakes are frequent; mineral wealth is unbounded—copper and silver being the most important. In the centre, grain is largely grown, but in the N., where rain seldom falls, the soil is sterile. In the S. timber is also an important product. A colony on the straits of Magellan, *Punta Arenas*, with about 170 inhabitants, belongs to Chili. Fruits, minerals, timber, and fish are the chief products.

Juan Fernandez is a dependency 300 miles distant. Lobsters are in immense numbers here. Our readers will recollect the History of Alexander Selkirk (Robinson Crusoe), who was cast on this island.

Santiago (80,000) is on a delightful plain, studded with acacia trees, at the mountain's base. Its cathedral, 8th December, 1863, was burnt down in 15 minutes, and 2,000 of the congregation perished. About 40 miles S.W. is **Melipilla**.

Valparaiso (75,000), "the valley of Paradise," is connected with the capital (of which it is the port) by a railway. It is a flourishing seat of trade. A railway runs to *San Felipe*, the capital of a productive province. On the S. coast are *Conception* (10,000), and *Valdivia*, (3,000), the latter on a fine bay. **Caldera** is a town of modern growth. It is a stopping place of steamers, and has a good railway station. **Copiapo** (15,000), in the N., is in the centre of a copper-mining district; and 50 miles S. is **Chanarcillo**, a silver-mining town, in the hands of a British company. A railway connects it with Caldera, one of the highest in the world, being 4,470 feet high.

Patagonia includes the whole S. part of America. It is a barren region (with many lakes and morasses), bereft of agriculture and civilization.

The Andes here are densely clothed with timber, and rise from 4,000 to 8,000 feet. Several Indian tribes, tall and agile, rove about. They are the only inhabitants in the country, the sovereignty of which is claimed both by Chili and La Plata. The islands on the S. are exposed to great tempests. Seals and birds are plentiful among them. *Tierra del Fuégo*, "the land of fire," is mountainous and well wooded. The inhospitable climate renders settlements for colonization almost impossible. At *Port St. Julian* and *Bahia Nueva* are small settlements. Its shores are touched by the whale fishermen.

LA PLATA, or the ARGENTINE REPUBLIC.

This country is bounded by the Andes, Uruguay, and the Atlantic, with Patagonia on the S. The coast-line, though long, has few harbours. The country descends from the Andes into vast plains, including three-fourths of the surface, most of which are called pampas, which are devoid of trees, but supporting on their luxuriant grass immense numbers of cattle and sheep, and giving good grain crops The chief exports are hides, horns, and bones. Lamas and Alpacas are important sources of wealth.

Buenos Ayres (15,000), the chief city, is a good commercial town on the S. of the estuary of the La Plata. It is the chief place of export for the republic, and of intercourse with Europe. It was taken by the British in 1806, and re-attacked by them in the following year. **Rozario** (30,000), on the Parana, has great trade with the interior of the country. **Santa Fe** (16,000), also on the Parana, has considerable trade. **Mendoza** (10,000) is on the road to the Andes. **Tucuman** (10,000) is the capital of the most fertile province. **Santiago. San Luis, Cordova,** and **Jujuy,** are also worthy of note. Some railways have lately been opened, and others are in progress.

PARAGUAY.

This is an inland fertile country, lying between the Paraguay and Parana rivers, with the rivers *Blanco* and *Monice* on the N. A range of hills, rising from 1,000 to 2,000 ft., runs from N. to S., dividing the country into two slopes. It is the only inland state in South America. The surface is covered with forests. The climate is hot, but subject to sudden changes from very variable winds; and the products are tea, timber, sugar, sarsaparilla, cotton, rice, cigars, and tobacco. The population consists of mixed Spanish and Indians.

Asuncion (10,000) (*Paraguay*), founded in 1536, has a cathedral and some trade in tea, timber, tobacco, and hides. **Villa Rica,** in the interior, has trade in dye-woods. **Conception** (*Paraguay*) is the centre of the tea trade of the country.

URUGUAY.

Uruguay, or Banda Oriental, occupies the north bank of the La Plata, between the Atlantic and the river of the same name. The interior consists of undulating table-lands, well adapted for pasturage; and cattle, horses, and sheep constitute the chief wealth. In the low grounds, near the sea, rice, sugar, cotton, and fruits, are produced.

Monte Video (40,000) is a thriving town on the La Plata estuary. In the summer the inhabitants often suffer from extreme heat and scarcity of water. Storms are frequent, and yellow fever is frequently troublesome. The exports consist of hides, wool, tallow, jerked beef, bones, guano, and seal skins.

La Colonia, opposite Buenos Ayres, was taken by the British and French fleets, 1845. **Durazyno, St. Lucia,** and **Mercedes** are in the interior.

GUIANA.

Guiana lies N. of Brazil, and extends from 1° to 9° 20′ N. latitude—about 560 miles; and from 50° 40′ to 61° W. longitude—about 710 miles. It is divided into *British*, *Dutch*, and *French*, but these colonies are only one-fourth of the entire region, which extends from the mouth of the Amazon to that of the Orinoco. It is low and level towards the sea, but rises in the interior, by a succession of table-lands, to the mountain range, which separates it from Brazil. The heat, though tropical, is not so extreme as might be expected, being modified by the trade winds, sea-breezes, and rainy season. There are two rainy seasons near the coast, but only one in the interior.

British Guiana,* in the W., is divided into *Berbice*, *Demerara*, and *Essequibo*. The cultivation is confined to the coast, sugar and rum being the chief articles produced.

* This territory was settled by the Dutch, 1580. It was taken in 1796 by General Whyte. At the peace of Amiens, 1802, it was restored to the Dutch, but in 1803 again taken by the British, with whom it was left at the peace of 1814. There are about 113,000 natives, 50,000 Indian and Chinese immigrants, 20,000 from the W. Indies and Madeira, and less than 10,000 from England and continental Europe.

Georgetown (15,000) is in a low and unhealthy position at the mouth of the Demerara river. It is built in the Dutch fashion, intersected by many canals: about four-fifths of the inhabitants are people of colour. **New Amsterdam** (30,000), at the mouth of the Berbice, is a thriving town, and the residence of the governor.

Dutch Guiana, or **Surinam**, has many Jews among its population. It produces sugar, coffee, rice, cotton, and indigo. It passed from England to Holland in the 17th century.

Paramaribo (20,000), on the Surinam, is well built, with good streets, having avenues of orange, lemon, and tamarind trees along their sides. Most of the inhabitants are blacks and coolies.

French Guiana, or **Cayenne**, lying further east, has similar productions, with similar physical features.

Cayenne (5,000), on a small isle, in the mouth of a river of the same name, is noted for its pungent pepper. It also exports cloves and maize.

The Falkland Islands are in the South Atlantic, about 300 miles N. E. from Terra del Fuego. They are healthy, though high winds prevail; grain ripens in sheltered nooks only; potatoes, turnips, etc., are excellent; trout abound in the rivers, and other fish in the harbours: an industrious well-to-do colony. **Stanley** is the capital.

OCEANIA.

Oceania, a name introduced by French geographers, includes the following:—**Malaysia**,* or the *Eastern* or *Indian* archipelago; **Australasia**, **Micronesia**, and **Polynesia**, or the South Sea Islands.

MALAYSIA.

Malaysia, called the Indian or Asiatic archipelago, includes the *Sunda* isles, the *Borneo* group, *Celebes*, the *Moluccas*, the *Sooloo* isles, and the *Philippines*.

* That is, the country of the Malays: the word *Melanesia* means "the country of the blacks;" *Micronesia* means "little isles," and *Polynesia*, "several isles"; *Australasia* means "southern Asia."

The **Sunda** Isles include *Sumatra*, *Java*, and their dependencies.

Sumatra, the most western of the Sunda Islands, lies S. of Malacca. is partly independent, and partly Dutch. It is 1,040 miles long, and 266 broad, with an area of 168,000 square miles, and a population of seven millions. The *Barisan* mountains, which have lofty volcanic cones rising from six to ten thousand feet, run the whole length of the island, and parallel to them there is another chain. Its rivers wind slowly through alluvial plains covered with dense jungle towards the E. There are several lakes, the largest being Sing Karrah or Semaway. Large marshes abound, which give rise to fevers; but the climate is pretty good. Fruits are abundant. Animals and productions are the same as those of Borneo. The independent portion consists of the kingdoms of *Acheen*, N.; *Siak*, E.; and the *Battas* country, W. It produces much pepper. Rice-culture and coffee-planting are the chief industries.

Acheen (30,000) is a good port, the capital of the kingdom of the same name. **Padang** (10,000) is a Dutch settlement, the residence of the governor, with active trade. **Bencoolen** (12,000) is another settlement, inhabited by a mixed race. **Palembang** (50,000), formerly a native kingdom, is now an important Dutch settlement, with a good trade.

Java almost all belongs to Holland. It is 628 miles long, and from 40 to 130 broad, with an area of about 50,000 square miles, and a population of 18 millions. The country near the S. coast is hilly, and several volcanic peaks rise in the interior to 10,000 or 11,000 feet in height. The coast on the N. is fringed with small islands. The year is divided into the wet and dry seasons. The soil is rich, and rice, wheat, arrow-root, sugar, tobacco, ginger, cotton, and coffee are raised. The upas tree flourishes in the woods, also teak, etc.

Batavia (100,000) is an important commercial city, surrounded by groves of tropical trees. Its inhabitants include traders from almost every country in the world. It is a free port, the capital of the Dutch possessions. **Cheribon** (11,000) has trade in indigo, coffee, teak-wood, etc. **Samarang** (25,000) is a fortified seaport, in which are many Chinese. It exports pepper, rice, and coffee. **Sourabaya** (60,000) has flourishing trade, a naval arsenal, and a cannon foundry. In the interior are several native states under Dutch protection.

Sumbawa is an island deeply indented by bays and creeks. Its native states acknowledge the supremacy of the Dutch. On the N. coast **Bima** has a good harbour.

Timor has a delightful climate, and is well wooded. It produces sandal wood, indigo, rice, etc.

Sandalwood island has a fertile interior. It is 100 miles long, and 30 broad.

The Borneo group includes *Borneo*, *Labuan*, *Natuna*, and *Anambas*.

Borneo is nearly equally divided by the equator, is about 800 miles long and 700 broad, and has an area of 300,000 square miles, with a population of 2½ millions. Its coasts are low and marshy; its interior is unexplored. Two mountain chains run nearly parallel from N.E. to S.W. Several large rivers water the N. and W. The river Batang-lopar falls into the Chinese sea; the Borneo and the Morotaba or Sarawak are in the N.; the Pembuan and Mendawa on the S. The only known lake is the *Kini Balu*, near the mountain (the highest in Borneo, 13,698 feet) of the same name. The climate on the low grounds is unhealthy; vegetation luxuriant—including teak, gutta-percha tree, ebony, dye-woods, nutmeg, cinnamon, rice, grain, ginger, cotton, and bamboo. Its animals are numerous—elephants, serpents, deer, apes, etc.; birds include eagles, parrots, peacocks, swallows. Excellent coal is found; also gold, iron, tin, zinc, and diamonds. The forests are expansive, trackless, and pathless. The inhabitants, consisting of several races, are generally cruel and wild, and subsist by hunting (chiefly wild boar and deer) and fishing. A great number of Chinese are in Borneo, and form an extensive colony. Most of Borneo is subject to the Dutch.* The British have Sarawak, in which valuable silver mines have been lately discovered, and the isle of Labuan was ceded to Britain by the Sultan of Borneo, 1847. It is chiefly noted for its excellent coal mines. It is about six miles distant from the mainland, 27 miles in circuit, and of a triangular shape, with a population of 1,250, of whom 40 are Europeans. It is a naval station. The ports are *Borneo* (10,000), *Pontianak* (3,000), and *Banjermassin* (6,000).

Banca is a small island, well known on account of its rich tin mines. Billiton also furnishes tin and iron.

Natuna Isles are a small group, the largest of which is Great Natuna. The *Anambas* consist of a well-wooded group, 150 miles N.E. from Singapore.

* Rice is the principal article of food; the inhabitants have no meat save pork and venison: no cow, ass, goat, or sheep. They are, however, a very active people.

Celebes is about 700 miles long, with an average breadth of 150 miles, and a population of two millions. The climate is healthy. The chief products are maize, rice, tobacco, yams, sago, and sugar. The surface is hilly, rising in Mount *Lampoo Batang* to 7,000 feet. There are many forests, grassy plains, rivers, and lakes. From one of its trees the famous Macassar oil is obtained. Diamonds, gold, iron, tin, and salt are found. The Dutch exercise supremacy over the island, which is nominally divided into several kingdoms. The towns are *Fort Rotterdam* and *Vlaardingen*.

The **Moluccas** lie between Celebes and New Guinea. They consist of *Gilolo, Ceram, Amboyna, Booro, Banda,* and many others. These islands belong to the Dutch, and the governor resides in the small isle of *Ternate*.

They have a mountainous surface, some peaks rising to 8,000 feet; a fertile soil, products including nutmegs, cloves, spices, fruits, and woods. *Gilolo* is mountainous and well wooded. *Ceram* is also mountainous, with a fertile soil, with immense forests of sago-palm, which yield abundance of starch. *Amboyna* produces abundance of cloves—nearly one million pounds annually. The clove-tree rises 40 feet high, and resembles a pear-tree. *Booro* has great quantities of rice and fruit. It is very mountainous. The *Banda*, or *Nutmeg, Isles*, of volcanic origin, produce abundance of spices.

The **Sooloo Isles**, greatly infested by pirates, are under a Sultan. They consist of some 60 isles: the climate is hot; the products are rice, cinnamon, and fruit. The population is about 200,000. The *Sanguir* group consists of about 50 islets.

The **Philippine Isles*** belong to Spain. They consist of *Luzon, Mindanao, Palawan, Samar, Mindoro*, etc.; population six millions.

Extending over 16° of latitude, the climate varies considerably. surface rugged, scenery nice, and vegetation luxuriant. There are

*This group consisting of 31 islands, together with hundreds of islets, rocks, and reefs, was discovered by Magellan, 1521, and named after Philip II. of Spain.

several volcanoes. The products are cotton, coffee, tobacco, cocoa, cocoa-nut oil, sago, cinnamon, sugar, and hemp, with mineral wealth, consisting of coal, gold-dust, amber, marble, brimstone, etc.

Manilla (150,000), on the island of Luzon, is the capital. It has extensive and increasing trade with all the great commercial countries, exporting sugar, cigars, indigo, rice, rum, etc. **Selangan**, on Mindanao, is the residence of a sultan.

AUSTRALASIA.

Australasia embraces *Australia, Tasmania, New Guinea, New Zealand*, with several smaller islands.

AUSTRALIA.*

Australia, though strictly speaking an island, yet from its vast magnitude, is usually described under the term—"Island-Continent." It lies between the parallels of 10° 45′ and 39° 5′ south latitude, and the meridians of 112° 20′ and 153° 30′ east longitude. Its length, from Cape York in the N. to Wilson promontory in the S., is 1,960 miles; and its breadth between Cape Byron and Steep Point about 2,400 miles. Its coast line is about 8,000 miles in length.

The seasons in Australia are the opposite to ours: the winter consists of June, July, and August; the summer, of December, January, and February. The natural phenomena are strikingly different from those to which we are accustomed; their N. wind is hot, their S. cold. The leaves of the trees, instead of extending horizontally, are vertical; the native flowers are without odour; the bees without sting; and birds without song. The owl hoots by day; the cuckoo cries by night; the swans are black, the eagles white, the crabs blue, and

* Australia was discovered by the Portuguese in 1601, and by the Dutch in 1606, who explored portions of the coast before the arrival of Captain Cooke (1770), who assigned the names Botany Bay (from the exuberance of flowers in the neighbourhood), New South Wales, Moreton Bay, etc. In 1800 Grant, and in 1802, Flinders, surveyed most of the remaining coast. Of the interior very little is yet accurately known. Burke and Wills crossed from Melbourne to the gulf of Carpentaria in 1861, and Stuart and M'Kinley in 1862.

the trees shed their bark instead of their leaves. The legislative machinery consists of a governor, legislative assembly, and house of assembly—King, Lords, and Commons.

Gulfs, Bays, Straits, etc.—On the E. *Jervis, Botany, Trial, Shoal, Moreton, Harvey, Keppel, Halifax, Trinity,* and *Princess Charlotte* bays, with several other inlets. On the N., the *Gulf of Carpentaria* (which penetrates 400 miles between York peninsula and N. Australia, and contains Wellesley and Great islands), *Melville, Arnheim,* and *Castlereagh* bays, *Clarence* and *Dundas* straits, with *Van Diemen* gulf between Melville island and the mainland, and *Apsley* strait between the same island and Bathurst. On the W., *Cambridge, Admiralty,* and *Exmouth* gulfs; *Collier, Shark,* and *Geographe* bays. On the S., *Spencer* gulf, *Blackstairs Passage,* and *Port Philip.*

Capes.*—On the E., *Howe, Byron, Moreton, Sandy, Tribulation,* and *Melville;* on the N., *York, Arnheim, Wilberforce, Wessel,* and *Van Diemen;* on the N.W., *Leveque* and *N.W* capes; on the W., *Cuvier* and *Leeuwin;* on the S., *Chatham, Pasley, Bauer, Catastrophe, Spencer, Nelson, Otway,* and *Wilson.*

Mountains.—The most important are the following:—the *Grampians, Pyrenees,* the *Australian Alps, Wanderer Range, Blue Mountains, Liverpool Range, Arbuthnot,* and *Nundawar* ranges in Victoria and New South Wales; *Mitchell, King,* and *Nicholson* mounts, with *Denham, Peak, Clarke, Johnston,* and *Fletcher* ranges, in Queensland. *Flinders, Gawler,* and *Stuart* ranges, in S. Australia. *Victoria, Herschel, Darling,* and *Capricorn* ranges in West Australia. *Ellesmere* and *Sugarloaf* ranges in North Australia.

Lakes.—*Alexandrina, Torrens, Eyre, Frome, Gairdner, Gregory;* with *Austin, Moore, Cowan, Cary,* and *Lefroy,* and several salt lakes in W. Australia.

*The *Great Barrier Reef* extends on the N.E. coast, to which it runs parallel, through 15° from opposite Keppel Bay to opposite Cape York and Torres Strait.

Rivers.—The rivers of Australia are few; some in the interior are lost through evaporation, others are short and shallow, and useless for navigation, having their sources chiefly in coast chains, while others remain unexplored. The drainage is very meagre, and the water supply insufficient, although this is, in some measure, counteracted by pools, ponds, and small lakes, some of them, however, salt, others brackish. The scarcity of water is often a source of considerable anxiety to stock-holders, and tends to retard the advancement of the grazing and agricultural industries.

The *Murray* (1,300 miles long), with its tributaries, the *Darling*, the *Lachlan*, and the *Murrumbidgee*, drains the most extensive and best known district. It rises in the Australian Alps, forms the boundary between Victoria and New South Wales, enters South Australia, and after a very winding course, enters Victoria L., an arm of Encounter Bay. The *Darling* is formed of several streams from the mountains in the S.E. of Queensland, and flows through New South Wales for hundreds of miles in a winding course. The *Murrumbidgee* runs nearly parallel to the *Lachlan*, which it joins about 150 miles before their united waters flow into the Murray. In the interior are the rivers *Victoria* and *Roper*. In Queensland are the *Brisbane*, *Fitz-Roy* (formed of the *Mackenzie* and *Dawson*), and *Burnett*. The *Roper*, which flows into the G. of Carpentaria, is navigable for 100 miles. The *Palmer* runs through rich gold fields in Queensland.

Tabular view of the Australian colonies*:—

Colony.	Area, Sq. miles.	Population.	Capitals.	Organized.
New South Wales†	323,437	604,000	Sydney (*Port Jackson*)	1788
West Australia	980,000	60,000	Perth (*Swan river*)	1829
South Australia‡	760,000	196,000	Adelaide (*St. Vincent G.*)	1836
Victoria	88,408	791,528	Melbourne (*Yarra Yarra*)	1857
Queensland	660,000	173,000	Brisbane (*Brisbane*).	1859
Tasmania	27,000	102,000	Hobart Town (*Derwent*)	1803
Fiji	10,000	160,000	Levuka	1874

Total population, with 170,000 natives, about 1,825,000.

* It will be perceived this return corrects that on p. 218, and comes down to 1877.
† A return gives 67·34 per cent. Protestant, and 29·29 per cent. Catholic.
‡ Including North Australia, Alexandra, and Stuart Land.

New South Wales lies in the S.E. The colony originated in a penal settlement made here in 1788. It is rich in agricultural produce and all kinds of stock, particularly sheep. Large forests, interspersed with brushwood thickets, are in the interior. The highlands are penetrated by deep valleys. Rain falls in torrents, but at very irregular intervals; and, in the dry season, when the brush-wood catches fire, the flames often spread with dangerous rapidity.

Sydney (135,000), agreeably situated on the shore of one of the finest harbours in the world, is an elegant commercial town, with well-paved streets. George-street is a beautiful thoroughfare, extending two miles. This city has a university, botanic garden, and many good schools. Its manufactures are important, its climate delightful, and trade fast increasing.

Paramatta (5,000), 15 miles N.W., is the oldest town in Australia. It has an observatory, is a railway centre, and still retains the mint. Near it are salt-works, and copper-smelting furnaces. **Maitland** and **Newcastle**, both on the Hunter river, have coal-mines in their vicinity. **Bathurst** is the chief town in the gold region of this colony. **Liverpool** is an improving town. **Wagga Wagga** is on the Murrumbidgee.

West Australia, formerly called the Swan River Settlement, is of much less importance than any of the other divisions. The fact of the existence of a penal settlement has contributed to discourage immigration. It has some valuable timber of most extraordinary durability. Copper and lead ores are plentiful.

Perth, on the N. bank of the Swan river, is a small town. **Freemantle** is its port, and contains the penal settlement. **Albany** has a good harbour; the mail steamers touch here.

South Australia runs right through, and contains *N. Australia*. It is an extensive district of lakes, sandy soil, saline mudlakes, and shrubbery. It has two great inlets—one, the gulf of *St. Vincent*, a deep and protected harbour. At its mouth is *Kangaroo* island, so named from the number of these animals found on it. *Spencer* gulf is the second opening. The surface, though not mountainous, is gently undulating. Timber is plentiful; water is scarce in the

summer; the Murray is the only river of importance. For about nine months in the year the climate is very mild; but the summer heat is to some people unpleasant. Snow is unknown in this colony. Pasturage is the chief industry; but wheat is very largely grown. Wool is exported in immense quantities. Fruits are abundant, and grapes are carefully cultivated. *Copper*, lead, and tin are found; the first being by far the most important.

North Australia, with *Palmerston* as its capital, now the terminus of the cable, lies in the extreme north.

Adelaide (35,000) (*St. Vincent G.*) is a fine town, with large exports of wool and copper. Near are gold, copper, and lead mines. **Port Adelaide** (12,000), its port, has a good harbour. **Kapunda** is a large town, with agricultural and mining industries. **Kadina** is a mining town. **Darwin** is a free port.

Victoria,* one-fourth of whose inhabitants are engaged in mining, is nearly as large as Great Britain; produces numbers of valuable diamonds; has a climate resembling that of southern Europe, frost being rare, and snow never falling except on the table-lands and mountains. Excellent crops of wheat, oats, barley, hops, and tobacco are raised, and the vineyards give an abundance of good wine. It exports wool, tallow, copper, wheat, and flour.

Melbourne (125,000) is a large and flourishing city, with a university, situated eight miles from the mouth of the Yarra Yarra. The rapid growth of this town is best explained by stating it was in 1837 a mere collection of huts, and in 1846 had only 11,000 inhabitants. It has several fine parks and squares, and good public buildings. It is the life and centre of the trade of the colony. *St. Kilda*, *Queenscliff*, *Sorrento*, and *Brighton* are watering-places. Williamstown is at the mouth of the river. **Geelong** (25,000) is on an inlet of Port Philip, forty miles from Melbourne. It has immense wool-stores. **Ballarat** (25,000) is an important town which rose near the gold-diggings. *Sale* is the capital of Gipps Land, the Switzerland of Victoria, containing valuable timber. **Castlemaine** (9,000) and **Sandhurst** are mining towns, the latter an improving place.

* Of the population, 10 per cent. are receiving instruction; 10 per cent. are engaged in trade; and 10 per cent. are artizans and mechanics. Primary Education is now free and compulsory.

Queensland* has an area six times that of the United Kingdom; and its productions include those of tropical and temperate climates. It is admirably adapted for cotton culture; but sheep-farming is the prevailing industry. In many places gold, silver, copper, tin, and coal mines are worked: timber is abundant; horses are so numerous that a "squatter" has several hundreds; and cattle are so plentiful, that they are only valued for their hides and tallow. Sugar is largely produced; the cotton cultivation is increasing. Silk has recently been produced on the banks of the *Tweed*.

Brisbane is an important town, about 20 *m.* from the harbour. Twoomba is famous for wheat, bere, and fruits.

Ipswich is 25 miles higher up the Brisbane river; Cleveland, near its mouth, is the resort of turtles. Rockampton is the best town in the colony. Bowen has sugar plantations. Maitland is near to important tobacco plantations.

Tasmania,† separated from the mainland by *Bass* strait (140 miles wide), is about five-sixths the size of Scotland. It has a splendid climate, and produces immense quantities of the very best wool. Grain can be grown for several years without manuring. Timber and cabinet woods are also very valuable. Copper, coal, and iron are the chief minerals. The whale fishery is carried on. It produces excellent oats, hops with wheat, and a great abundance of fruits. Two ranges of mountains traverse it, the peaks *Ben Lomond* (5,000 ft.) and *Humboldt* (5,520 ft.) being the highest.

Hobart Town (25,000), a great tourist resort, is at the base of some finely wooded hills, near the mouth of the river. It contains flour-mills, breweries, tanneries, etc., and extensive foreign trade.

Launceston (10,000), a dull place on the Tamar, the seat of a college, has trade with Melbourne and Adelaide. Port Dalrymple and Georgetown (5,000) are improving places on the N. coast.

Railways.—A railway connects Melbourne with Geelong and Ballarat; and a N. line connects it with Castlemaine, Sandhurst, and

* It was made a separate colony in 1859; want of water is its great drawback. A part of the country is called, from its resemblance to England in climate, "New England." Its inhabitants are enterprising and wealthy.

† This island was discovered by Tasman, a Dutch navigator, in 1642.

Meama. Sydney is connected with Picton, Penrith, and Windsor. A line runs from Newcastle through Maitland to Biddell. In Tasmania a railway connects Hobart Town with Launceston, distance 125 *m.*

New Guinea, or Papua, N. of Australia, though one of the largest islands in the world, is very imperfectly known. The surface is mountainous in the interior; fertile towards the coast. The *Baxter* river is navigable for an ordinary steamboat 60 *m.* inland, and for smaller boats 30 *m.* further. The *Fly* river has been explored for 80 *m.* The inhabitants dwell in villages, manufacture a little pottery, build good canoes, and are in constant warfare with each other, the most valued trophy being the enemy's jaw-bone. They are naked, and for the most part bloodthirsty, the tribes being distinguished as coast and bush tribes, the latter greatly inferior. The productions are nutmegs, tortoise-shell, cocoa-nuts, yams, and edible bird's nests. Birds, including the beautiful bird of Paradise, are numerous.

New Zealand* consists of three islands, extending from N. to S. in a kind of curve, the two northern being separated by Cooke strait, a fine deep channel, 150 miles long and 50 broad; and the middle being separated from the southern by Foveaux strait.

North Island is about 500 miles long, varying in breadth from 5 to 300 miles, and containing 26 millions of acres. It contains several lakes—*Taupo*, in Auckland, 200 square miles in area, being the largest, and *Wairarapa*, in the S., next in size. Several chains of mountains run from N. to S., the most important peaks being *Mount Egmont*, an extinct volcano (8,270 feet), *Mount Tongarin*, (6,200 feet), *Ruapepu* (9,195 feet), the highest peak in the island. The bays are *Plenty* and *Hawke*, with several smaller ones.

Middle Island has a length of 550 miles, with an average breadth of 110 miles, and contains 38 millions of

* It was discovered by Captain Cooke, 1769 (but had been "sighted and named" by the Dutch navigator, Tasman, 1642), who held frequent interviews with the natives. In 1814, the missionaries first arrrived, and, soon after, some settlers from Australia. In 1840, it was formed into a colony, and settlements purchased from the natives near Wellington and Nelson: in 1846 the Scotch settlement of Otago was planted. The bulk of the aboriginal population, from the mildness and salubrity of the climate and fertility of the soil, are found in the Northern Island, living in small villages by rough farming and fishing, the potato being their chief article of food. Their society is patriarchal, but the majority of the youthful inhabitants wear British clothing, and, in a great degree, conform to English habits. The *Maories*, as they are called, are an intelligent and warlike race, susceptible of great improvement in the arts of civilization. The scenery in many places is charming.

acres. It has several fine lakes, *Wanaka*, *Hawea*, *Anan*, and *Wakatipu*. The Southern Alps run from N. to S., on which is Mount Cook (13,200 feet); a little more S. *Earnslaw* (10,000 feet), and *Mount Franklin* in the N. (10,000 feet). The largest bays are *Tasman*, or *Blind* bay, and *Pegasus* bay.

Stewart Isle contains about one million of acres. Its surface is hilly.

Climate and Productions.—The climate very much resembles that of the British Isles, with seasons the very opposite to ours, and more violent storms of wind and rain than we have in this country; but with the same crops and fruits. The mean annual temperature of the North Island is 57°, of the Middle 52°. The North Island yields splendid timber from its extensive forests.

Wellington is the capital of the entire colony.

Islands.	Provinces.	Chief Towns.
New Ulster, or North Island,	1. Auckland,	Auckland, on the Thames.
	2. New Taranaki,	New Plymouth, on W. coast
	3. Wellington,	Wellington, on Pt. Nicholson
	4. Hawke Bay,	Napier, on Hawke's Bay.
New Munster, or Middle Island,	5. Nelson,	Nelson, on Tasman Bay.
	6. Canterbury,	Christ Church, near Pegasus B.
	7. Otago,	Dunedin, on Port Otago.
	8. Marlborough,	Blenheim, near Cloudy Bay.
New Leinster, or Stewart Isle,	9. Southland,*	Invercargill, on S. coast.

Minerals.—Coal is found in both islands; gold, iron, and copper, near Auckland, and in other places. Tin, lead, marble, alum, and sulphur, are also found.

Fish are numerous in the seas and rivers; there are no reptiles.

The exports and imports exceed in value (1869) nine millions sterling—the former being gold, wool, barley, oats, wheat, and flax; and the latter principally manufactured goods.

* Most of this province is on the mainland of Middle Island. It includes Stewart Isle on the south.

The *population* in 1876 is computed to be 421,350. The European population (1876) is about 375,000, about one-half of whom reside in the middle isle. There are excellent roads, telegraphs, and railways.

The three principal ports are :—*Auckland, Dunedin*, and *Lyttleton*. *Skortland*, the chief town on the Thames gold fields, was a waste a few years ago.

Rivers.—The rivers are, in North Island, *Thames, Waikato* (the longest in the isles), and *Wairarapa;* in Middle Island, *Dillon, Molyneux*, and *Waidu*.

The Auckland and Norfolk Isles.—See p. 218.

MICRONESIA.

Micronesia consists of several groups of small islands in the N. Pacific, extending from the equator to 28° N. latitude. These include the *Ladrone*, or *Marianne* isles, the *Caroline, Pelew, Bonin, Marshall*, and *Sandwich* isles.

The *Ladrones* consist of a cluster of seventeen isles, with a fertile soil, which yields cotton, sugar, and rice. They were discovered by Magellan, 1521, and named Ladrones ("robbers") on account of the thievish propensities of the natives. The *Caroline* and *Pelew* groups are all of coral formation, except the *Yap* group, which is mountainous. The productions are similar to those of the Ladrones, and the inhabitants are said to be good sailors. *Bonin* is a group frequented by European whalers. *Marshall* consists of low coral islets.

The Sandwich Isles, the largest of which is Owhyhee, are best known to Europeans. The climate is mild; surface rugged; productions tropical and valuable; and the domestic animals, including horses, cattle, goats, and swine, are numerous. In 1819 the king publicly embraced Christianity; and the natives, a docile race, have since made great advancement in civilization. *Honolulu*, the capital, is now a great place of call for ships. It was on Owhyhee that Captain Cooke was killed, 1779. This island contains the mountains *Mowna Kea* and *Mowna Lea*, once active volcanoes. The influence of the United States is paramount: many Americans reside here. They have a written language, and regular institutions.

POLYNESIA.

Polynesia consists of innumerable islands, bearing great similarity in climate and productions, and inhabited by a race who, with the exception of a few converted to Christianity, are idolaters. All these islands, even those with high mountains, were once at the bottom of the sea. Many of them are of coral formation. Everywhere we find proofs of what is now land was once sea, that where oceans now spread was once land, that this has taken place again and again during countless ages of past time. Among the most important groups are the *Fiji*,* *Friendly* or *Tonga*, *Society*, *Low*, *Marquesas* etc., etc. The inhabitants speak various dialects, very little resembling each other.

The *Fiji* or *Feejee* islands, about 225 in number, are well wooded, and some of them have mountains rising 4,000 feet above sea-level. The soil is productive, and climate delightful, cotton, coffee, sugar, cocoa, nutmeg, arrowroot, and ginger, tobacco and bread-fruit being raised. The population is 160,000, among whom are 1,690 whites. They have a parliament, being a separate colony under a governor. *Levuka* is the capital; the largest isles are Viti Levu and Vanua Levu.

The *Friendly Isles*† have a luxuriant vegetation. The population is about 20,000, one-fourth of whom have, of late years, become professing Christians. Cocoa-nut oil is the chief product.

The *Society Isles* are remarkable for magnificent scenery and rich products. The inhabitants are greatly improved since their intercourse with Europeans, and are mostly Christians. *Tahiti*, *Otaheite*, the largest island, has been justly named "the gem of the Pacific." In the interior a mountain peak is 11,000 feet high. The French claim a kind of protectorate over these islands.

In the *Low*, or *Dangerous* archipelago, *Pitcairn's* isle is interesting as the refuge of the mutineers of the Bounty, 1789.

The *Marquesas* consists of 13 islands, mountainous and hilly in the interior. They produce sugar, cotton, bamboos, cocoa-nuts, etc. The people are tall and comely. These isles belong to France.

*The *Fiji Isles* have attracted much attention, having been annexed to Britain, 1874. They have often been a subject of discussion in Parliament, in consequence of an imputation that, to a certain extent, slavery has been practised; several of the natives having been enticed to work on the cotton fields of Queensland and subjected to gross inhuman treatment. In retaliation many Europeans, including Bishop Patteson, were murdered on the isles. The missionaries have had perfect success: all are professing Christians.

†Though named by Captain Cooke on account of the kindly disposition of the inhabitants, they have since turned out, notwithstanding their comely features and bravery, to be treacherous and vindictive. *Navigator's Islands* are now under a protectorate of the United States. They are a group of 9 isles 400 miles N.E. of Fiji, with a population of 35,000 souls. There are many British and American settlers. *Apia* is a small port of call for vessels. They are fertile, producing cocoa-nuts, banyans, sugar, cotton, yams, potatoes, and coffee. On *Tutuila*, the largest, is a harbour called *Pangopango*, which is used as a coaling station for vessels.

New Caledonia, a hilly island, has been taken by France. The seas around swarm with fish, some of which are not edible; turtles and sharks are also abundant.

NOTE.—The extreme climate of the ANTARCTIC REGIONS has prevented their exploration. Among the places visited are:—*Graham's Land, Louis Philippe Land, South Victoria, South Shetlands, South Orkneys,* and the *Balleny* isles.

MILITARY EXAMINATION.

Test-Paper given for First Appointments, January, 1874.

(Time, 1½ hours.)

[*Six only of the following questions to be attempted*].

1. Define the position and boundaries of Cheshire, Renfrew, and Wexford. Give a full description of any *one* of these counties.
2. Describe the natural productions and manufactures of Italy.
3. Where are the following places, and for what are any of them remarkable: Boston, Khiva, Besançon, Buffalo, Bayonne, Marengo, Hull, Kars, Montevideo, and Carthagena?
4. Give a brief geographical description of *either* Cuba or Afghanistan.
5. Describe the course of the Meuse *or* the Indus.
6. Give a geographical description of the Black Sea, and name any three places of importance on its shores, saying for what each is remarkable.
7. What is the chief manufacture carried on at each of the following places: Sheffield, Burslem, Worcester, Limerick, Cork, Genoa, Memel, Düsseldorf, Strasbourg, Brussels?
8. What are the present political divisions of Austria? Give the names of their respective chief towns, and write a short account of any *one* of the divisions.
9. Draw and fill up a map, as large as your paper will permit, of the English counties lying along the eastern coast from Berwick-on-Tweed to the North Foreland.
10. Give the best definitions you can of pole, axis, meridian, latitude, and ecliptic; and state generally any particulars which distinguish the physical geography of the southern hemisphere from that of the northern

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OPEN COMPETITION.

CLASS II.—2½ HOURS.

1. On the outline map of Europe, indicate by asterisks, with the names written near them, the capitals and commercial ports.

2. Draw a map of the west coast of America, from north to south, as far as Mexico, marking the most remarkable places.

3. What do you know of—Belfast, Greenock, Montevideo, Archangel, Philadelphia, Kiel, Amoy, Penang, Le Mans, Oporto?

4. Define the terms—axis, pole, equator, zone, tropics, meridian, tide, iceberg, monsoon, bore, strait, channel, isthmus, latitude, longitude.

5. Distinguish between tidal and non-tidal rivers, and say where are the following, classifying them accordingly—Orange, Amoor, Missouri, Douro, Vistula, Moselle, Oder, Drave, Ticino, Shannon, Bug, Derwent, Itchen, Rhone.

6. What different English rivers have the same appellation? Name five English rivers, with the cities on their banks, navigable for sea-

going vessels. What countries are remarkable for the abundance or absence of rivers?

7 What is an Archipelago? What do you know of the Azores, Leeward, Ionian, Society, Andaman, and Philippine Isles?

STUDENT INTERPRETERSHIP.—3 HOURS.

1. On the outline map of Europe trace the Seine, Rhine, and Danube, with their tributaries and towns on their banks.

2. Draw a map of the N. coast of Africa, marking the principal towns and divisions, saying what you know of their commerce or their physical characteristics.

3. What do you know of Charleston, San Francisco, Flushing, Memel, Brindisi, Marsala, Ballarat, Trieste, Moultan, Tours?

4. To what states do the following belong?—Brandenburg, Croatia, Calabria, Armenia, Fez, Utah, Auckland, Oregon, and Montenegro.

5. What are the divisions of our Indian Empire? Give roughly its size, and state what portion may be marked off from Europe or America as an equivalent.

6. Mention the countries or parts of countries between any 15° of latitude, or 15° of longitude.

7. Why is Great Britain naturally defensible and commercial?

8. What are volcanoes, icebergs, and glaciers? Give instances of their destructive or beneficial effects. Why are icebergs met with further from the S. than from the N. pole?

9. Give an account of any of the circumnavigators of the globe, and of the results that followed or were anticipated from his expedition.

FOREIGN OFFICE.—2½ HOURS.

1. On the outline map of Europe fill up the kingdoms of Spain and Italy; mark the old and new boundaries between France and Germany, with the towns, &c., in the intermediate space.

2. Describe fully Cheshire, Ross, or Tipperary.

3. Give the exports and imports between Great Britain and Russia, Canada, Japan.

4. What do you know of Medina, Herat, Oltenitza, Mobile, Haarlem, St. Quentin, Laybach, Breslau, Limoges, Quillimane?

5. Describe first, the Azores; second, Chili; third, Sweden.

6. Draw and fill in a map of British North America.

7. Give the productions, position, and country to which the Andaman, Philippine, and Canary Isles belong.

8. Describe the trade winds and the equatorial currents.

9. Distinguish between—1, promontory, cape, headland; 2, gulf, bay; 3, channel, strait. What is a delta, and how formed?

Given March 1877.

1. Explain what is meant by the meridian of Greenwich, compression of the earth's surface, the variation of the compass, the real and apparent horizon, and the equinox.

2. Describe fully the situation and character of Liverpool, Edinburgh, and Glasgow. Give the approximate population of each. Which of the three is the most easterly, and which the most northerly?

3. Write an account of the Pacific Ocean, describing its size, shape, and coast line, and the chief phenomena connected with its winds and currents. Mention also the principal islands or groups of islands contained in it, distinguishing between those N. and S. of the equator.

4. Write a short letter, describing a journey from Havre to Trieste, either by land or sea, naming the principal places which you pass.

5. Trace accurately the great watershed of Europe which separates the N.W. from the S.W. basin. Mention the seven smaller basins into which those two may be subdivided, and the rivers which drain each of them.

6. Draw a map of Africa, and write a short dissertation on the [redacted] features of its physical geography. Give, as nearly as you [redacted] the geographical position of the following places, mentioning [redacted]ause of their commercial importance or historical interest:—[redacted]apore, Bayonne, Manitoba, Ottawa, Peru, Revel, Para, Cuzco, [redacted]araiso, Acapulco, Cincinnati, Kidderminster.

7. Through what character of country would a person travel, and what places would he pass, in going—1, from Constantinople to Khiva; 2, from Mexico to New York; 3, from Calcutta to Kurrachee.

9. Draw outlines of the following, and endeavour to show their comparative sizes:—Hudson Bay, Gulf of Mexico, Caspian Sea, Black Sea, Baltic Sea, Red Sea, and Adriatic Sea.

10. Where are the following lakes:—Huron, Geneva, Constance, Maggiore, Ladoga, Torrens, Baikal, Titicaca, Champlain, and Tiberias. Arrange them in order of magnitude, and give roughly the size of each. State any peculiarities connected with their elevation, depth, or other circumstance, and mention what rivers flow into or through them.

CONTROL; AND INSPECTORS OF SCHOOLS, IRELAND.

1. Into how many branches is Geography divided? Examine the questions of which each treats as fully as you can.

2. Describe the counties of Lincoln, Roxburgh, or Cork.

3. Give the course of a vessel from Trebizonde to Algiers, naming the various countries and islands which are visible.

4. Give towns on or near—the Potomac, Douro, Rhone, Volga, Indus.

5. Draw a map of Spain, naming the places remarkable for recent conflicts.

6. Name in order and briefly characterize the features of the countries which border on India.

7. Describe the lakes of N. America.

8. Give an account of Tunis, Nantes, Palenque, Baalbec, Cronstadt, [redacted]decca, Naples, Laybach.

[redacted]ribe Montenegro, and draw a sketch map of the countries [redacted]ing on it.

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